





The photo shows the model KE-4242/UC.

ORDER NO. CRT 1095

CASSETTE CAR STEREO WITH FM/AM ELECTRONIC TUNER

KE-4242 15 KE-4515 15

NOTE: This service manual is designed to be used together with Model KE-3232/UC Service Manual (CRT1090). Refer to it for finding parts numbers and circuit description, etc. which are not shown in this manual.

SPECIFICATIONS

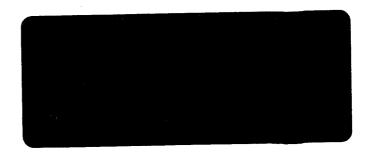
General

General	A A A N D O MO O AF C N Allamobile)
Power source	. 14.4 V DC (10.8 — 15.6 V allowable)
Grounding system	Negative type
May aureant concumption	2.5 A
Dimensions (chassis)	1/0(W) × 50(H) × 130(D) mm
	16-3/4(W) X 2(H) X 5-1/6(D) 10.1
(nose)	105(W) \times 42(H) \times 36(D) mm
	[4-1/8(W) X 1-5/8(H) X 1-3/8(D) III.]
Chaft intomal	130 or 147 mm (5-1/8 or 5-3/4 in.)
Stidit interval	1.5 kg (3.3 lbs.)
Amplifier	
Continuous power output is 3.2 W	per channel min. into 4 ohms, both
channels driven 50 to 15,000 Hz with	th no more than 5% THD.
Maximum power output	8.5 W × 2/ / W × 4 (EIAJ)
Load impedance	4 \Q (4 - 8 \Q allowable)
Maximum output level/output impo	edance (RCA) 500 mV/100 ₩
Tone controls (bass)	±10 dB (100 Hz)
(trable)	+ IU QB (IU KHZ)
(uebic)	+8 dB (100 Hz) (volume: -30 dB)
Loudness contour	(0 00 (100 (12) (1010 (11)
Tape player	
Tape	Compact cassette tape (C-30 - C-90)
Tane speed 4./6 cm.	/sec. (+0.14 cm/sec., -0.05 cm/sec.)
Eact forward/rewind time	Approx. 100 sec. for C-bu
18/man 9. flustor	U.13% (VVRIVIS)
Frequency response	Metal: 50 - 17,000 Hz (±3 db)
	Normal: 50 - 14,000 nz (13 db)
Steren senaration	45 dB
Cianal to poice ratio	52 dB (IHF-A network)
Signal-to-noise ratio	

FM tuner	
Frequency range	87.9 – 107.9 MHz
Usable sensitivity	12 dBt (1.1 μ V//5\2, mono)
50 dB quieting sensitivity	
Signal-to-noise ratio	70 dB (IHF-A network)
Distortion	0.3% (at 65 dBt, 1 kHz, stereo)
Frequency response	50 - 15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)
Selectivity	70 dB (2 ACA)
AM tuner	
Erequency range	530 - 1,620 kHz
Leable consitivity	18 μV (25 dB) (S/N: 20 dB)
Selectivity	50 dB(±10 kHz)
These specifications were determ	nined and are presented in accordance ablished by the Ad Hoc Committee of

Note:

Specifications and the design are subject to possible modification without notice due to improvements.



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ADJUSTMENT

HEAD AZIMUTH ADJUSTMENT

• Connection Diagram

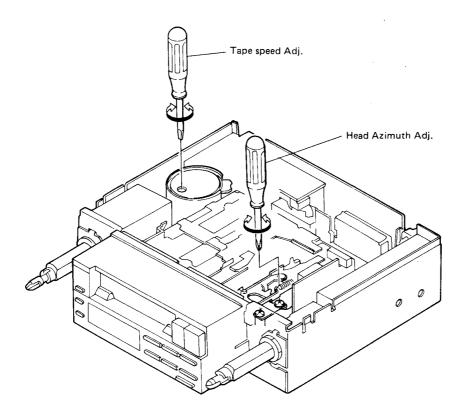


Fig. 1

To Adjust

- 1. Play "A" side of STD-341A (10kHz, -20dB). Adjust each screw for maximum output in forward and reverse directions.
- 2. Play "B" side in forward and reverse directions to confirm adjustment.

TAPE SPEED ADJUSTMENT

• Connection Diagram (shown in Fig. 1)

• To adjust

1. Reproduce STD-301 (3kHz, -10dB). Adjust the semi-fixed resistor so that the frequency counter shows 3,010Hz (+30Hz, -30Hz).

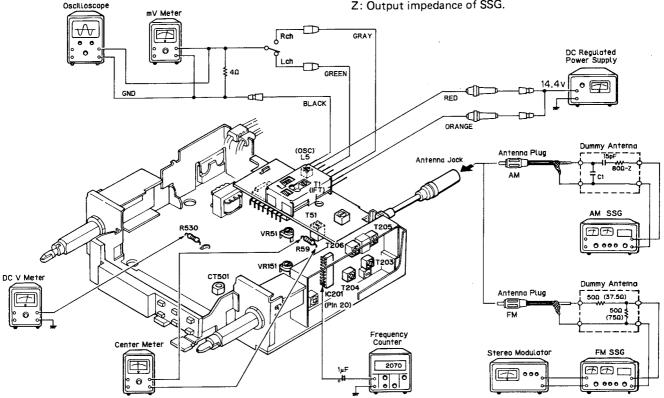
FM IF ADJUSTMENT

Connection Diagram

NOTICE:

Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.

Z: Output impedance of SSG.



To Adjust

- 1. Apply a signal of 98.1MHz, 400Hz, 100% modulation and 60dB (μ V) from the FM SSG and tune 98.1MHz.
- 2. Adjust T51 to make the center meter show 0.

Fig. 2

AUTO LEVEL ADJUSTMENT

Connection Diagram (shown in Fig. 2)

To Adjust

- 1. Set SSG at 98.1MHz and tune using the tuning button.
- 2. Set SSG to an output level of 35 dB (μ V), and adjust VR151 to a separation of 5 dB (between the right and left channels).

FM SCAN SENSITIVITY

• Connection Diagram (shown in Fig. 2)

To Adjust

- 1. Turn off the Local Station Seek switch.
- 2. Add a 98.1MHz (400Hz, 100% modulation) out put level 25dB (μ V) signal from the SSG.
- 3. Push the SEEK button, and adjust VR51 so that the SEEK stops.
- 4. Set the SSG output level to 14dB (μ V). And check to make sure that the SEEK doesn't stop.
- 5. Push the Local Station Seek switch and set it to Lo. S.
- 6. Check to make sure that the SEEK stops when the SSG output level is 47 \pm 10dB (μ V).
- 7. If it is not within specifications, repeat the procedure starting at step one.

AM (MW) TRACKING ADJUSTMENT

• Connection Diagram (shown in Fig. 2)

To Adjust

Frequency of AM SSG	Displayed Frequency	Adjusting Point	DC V Meter	mV Meter
1.	1,620 kHz	For Confirmation only	Less than 7.4V	
2.	530 kHz	For Confirmation only	More than 0.7 V	
3. 600 kHz (400 Hz, 30% modulation) output level 25 dB (μV)	600 kHz	T203, T204 T205, T206		Maximum output
600 kHz 4. 1,000 kHz (400 Hz, 30% modulation) 1,400 kHz output level 35 dB (μV)	600 kHz 1,000 kHz 1,400 kHz	For Confirmation Only		The difference between the maximum and minimum output levles at 600 kHz, 1,000 kHz, and 1,400 kHz must be 6 dB or less.

FM TRACKING ADJUSTMENT

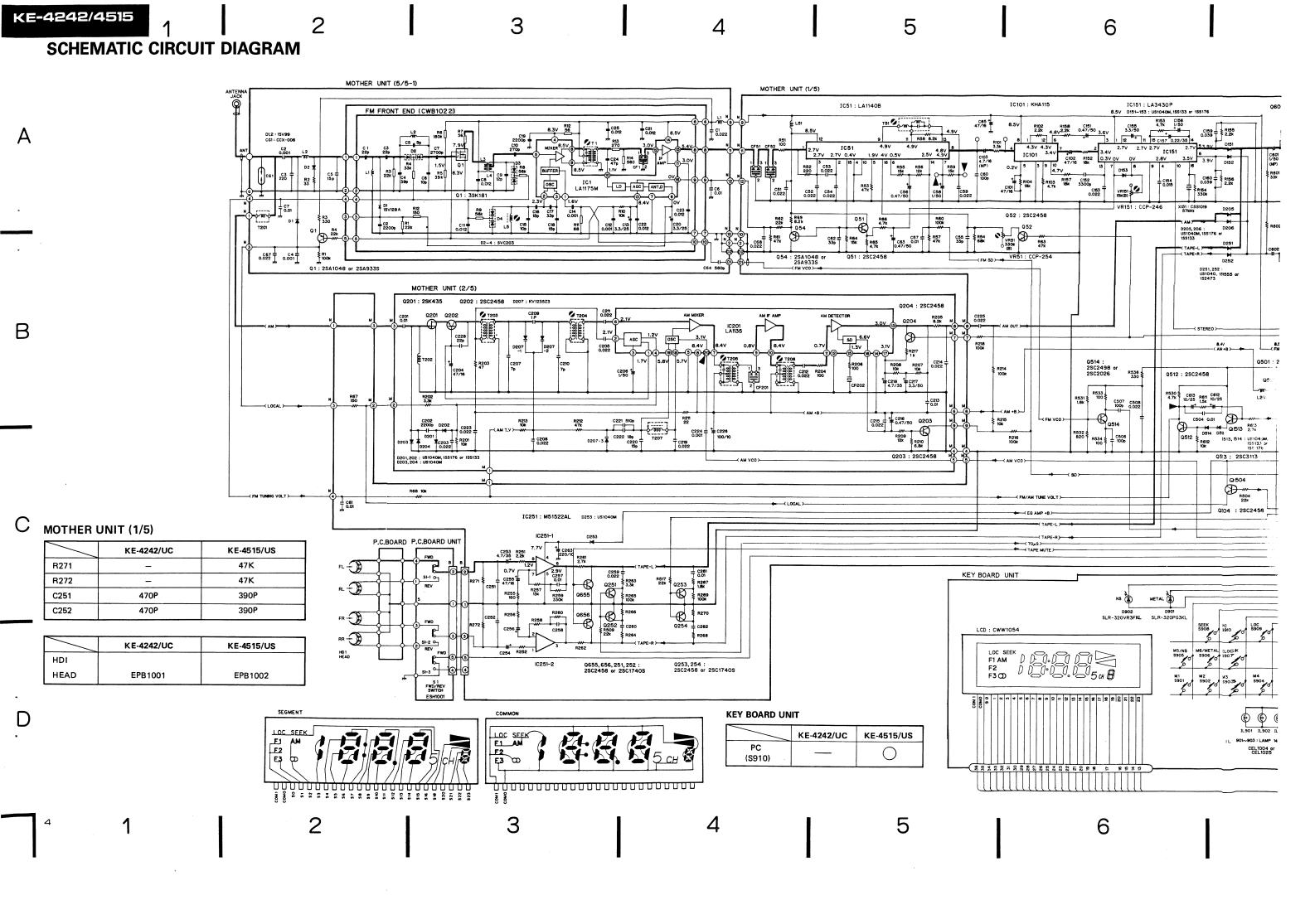
• Connection Diagram (shown in Fig. 2)

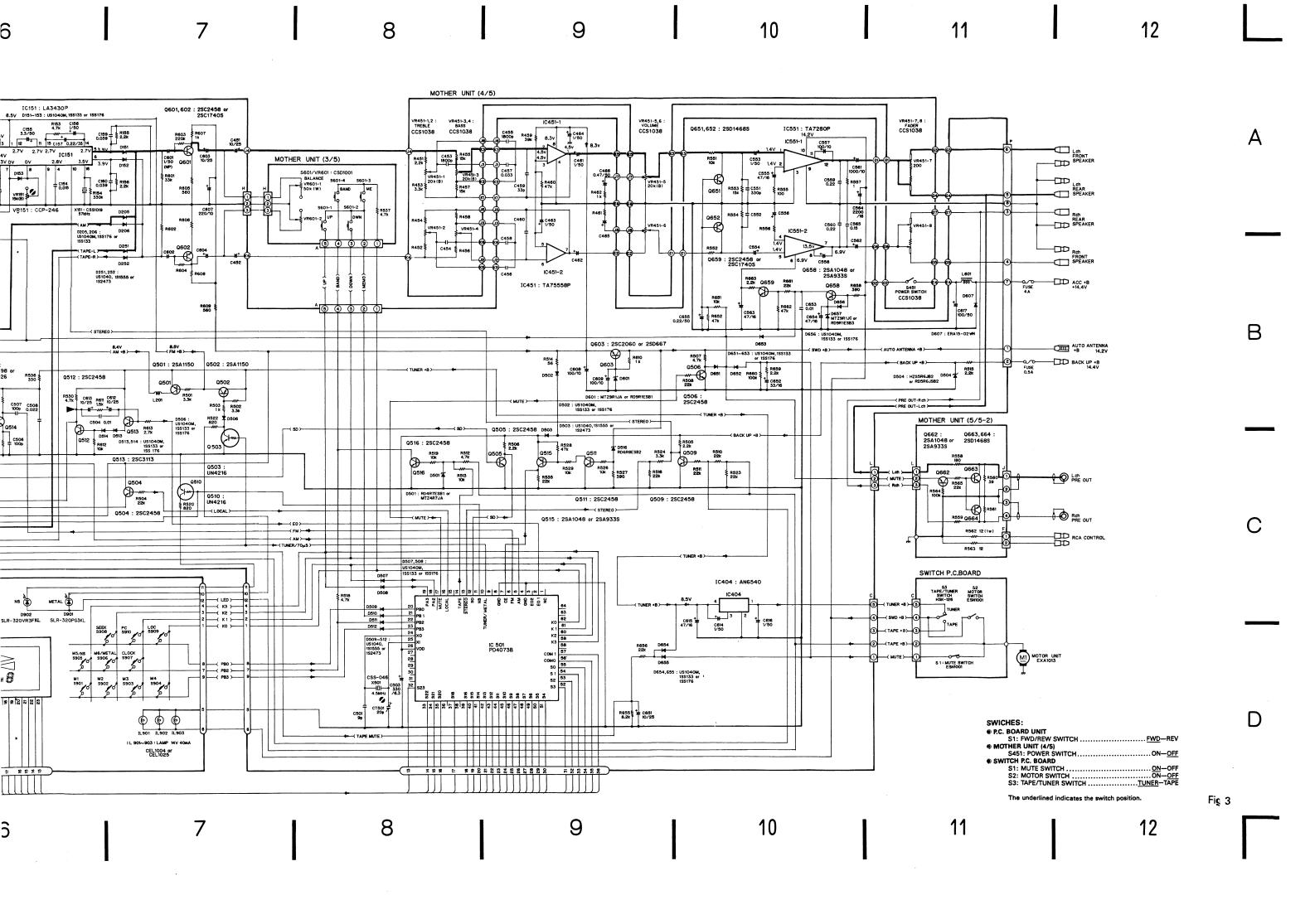
To Adjust

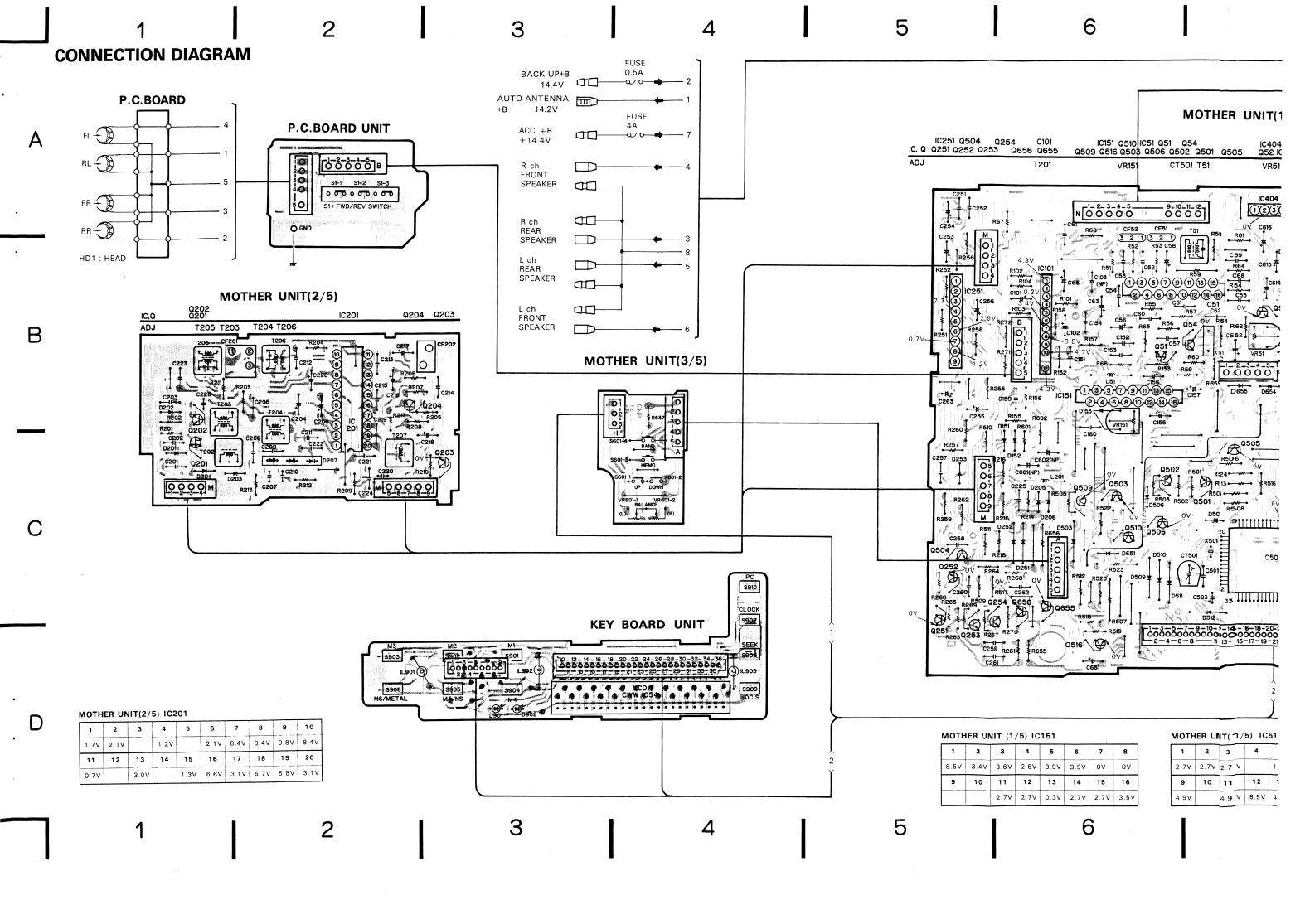
Frequency of FM SSG	Displayed Frequency	Adjusting Point	DC V Meter	mV Meter
1.	107.9 MHz	L5	Less than 7.4V	
2.	87.9 MHz	For confir- mation only	More than 1.6V	
3. 98.1 MHz (400 Hz, 100% modulation) output level 5 \sim 10 dB (μ V)	98.1 MHz	T1		Maximum output

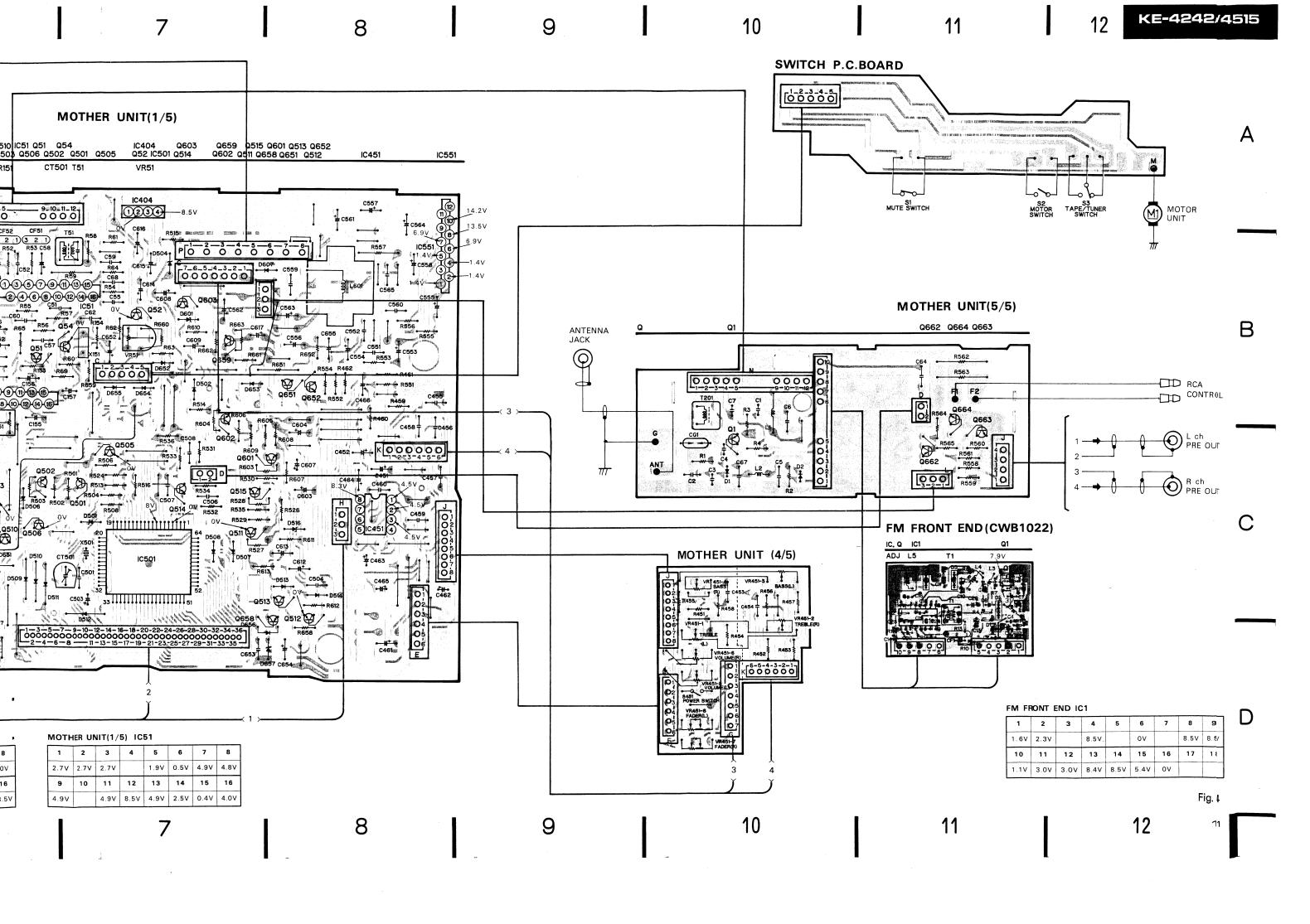
REFERENCE OSCILLATION FREQUENCY ADJUSTMENT

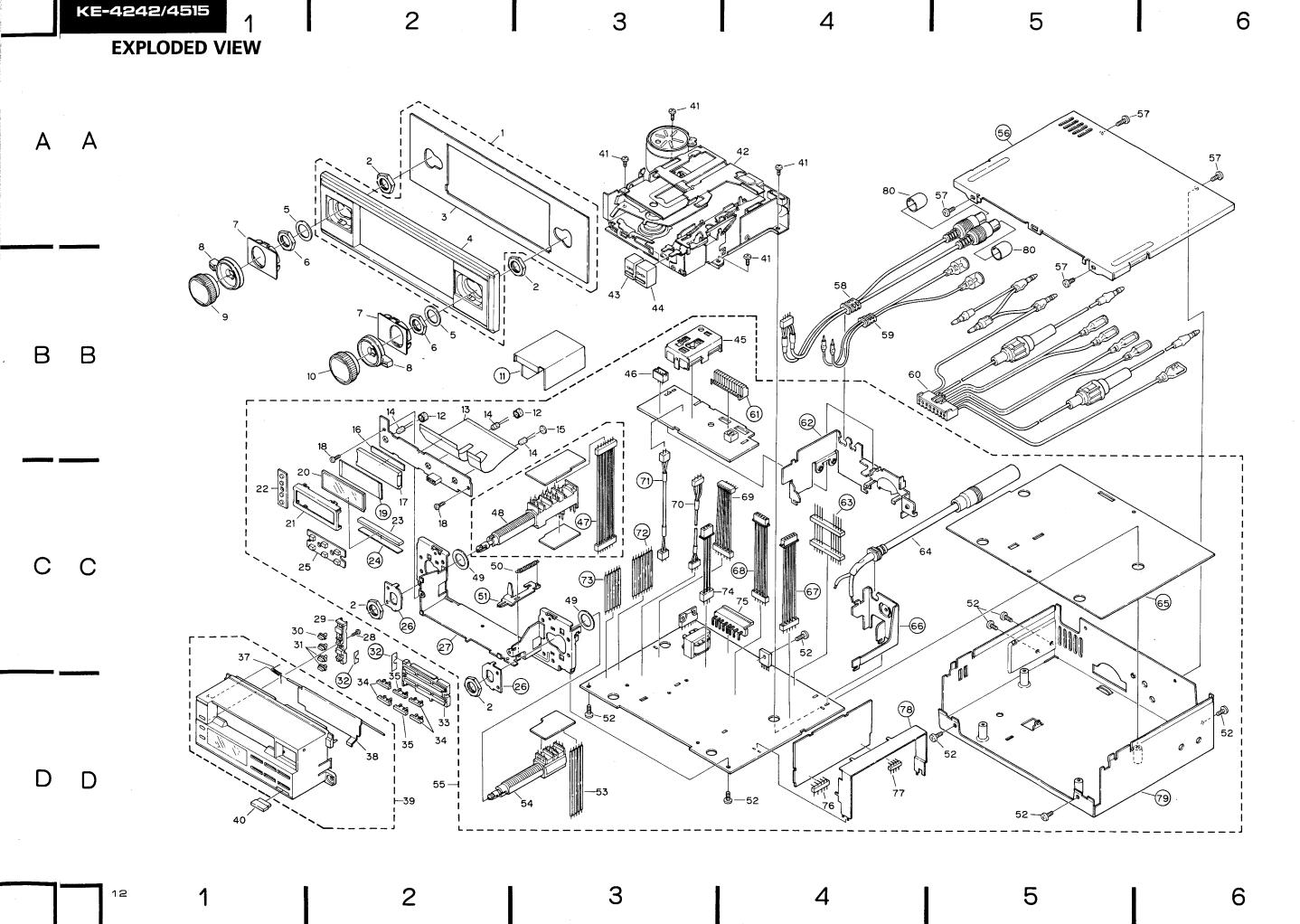
- Connection Diagram (shown in Fig. 2)
- To Adjust
- 1. Set the AM position.
- 2. Set the LCD display to 1620KHz.
- 3. Adjust CT501 sot that the frequency counter display becomes 2070kHz ±40Hz.











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Part List

NOTE:

- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
- * *: GENERALLY MOVES FASTER THAN *.

This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

- Parts whose parts numbers are omitted are subject to being not supplied.
- Parts marked by "@" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

	Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
		1.	CXA1629	Panel Assy	•	42.	EXK1130	Cassette Mechanism Assy
		2.	CBN-028	Nut				(KE-4242/UC)
		3.	CNG-633	Plate			EXK1150	Cassette Mechanism Assy
		4.	CNS1226	Panel				(KE-4515/US)
		5.	CND-646	Spacer	*	43.	CAC1277	Button
		6.	CBN-028	Nut	*	44.	CAC1276	Button
		7.	CNK-292	Cap		45.	CWB1022	FM Front End
	*	8.	CAA1054	Knob (KE-4242/UC)		46.	CKS-567	Plag (3P)
В			CAA1058	Knob (KE-4515/US)		47.		Connector
	*	9.	CAA1011	Knob	**	48.	CCS1038	Volume/Switch
	*	10.	CAA1055	Knob		39.	CBE-084	Spacer
		11.		Insulator		50.	CBH1084	Spring
		12.	CNV1088	Bush		51.		Lever
		13.	CNP1296	P.C. Board		52.	BMZ30P060FMC	Screw
	**	14.	CEL1004 or	Lamp, 14V 40mA		53.	CDE1409	Connector
			CEL1025		**	54.	CSD1001	Volume/Switch
		15.	CNV1102	Bush		55.	CWM1350	Tuner Amp Assy (KE-4242/UC)
		16.	CNN-137	Spacer			CWM1351	Tuner Amp Assy (KE-4515/US)
		17.	CNY-215	Lens		56.		Case
		18.	PMZ20P050FMC	Screw		57.	BMZ30P040FMC	Screw
		19.		Plate		58.	CDE1126	Connector
		20.	CWW1054	LCD		59.	CDE1381	Cord
		21.	CNH-136	Holder		60.	CDE1419	Cord Assy
		22.	CNV1375	Rubber		16.		Connector
\mathbf{C}		23.	CNY-214	Connector		62.		Heat Sink
		24.		Insulator		63.		Plug (8P)
		25.	CNV1299	Rubber		64.	CDH1061	Antenna Cable
		26.		Holder		65.		Insulator
		27.		Frame Unit		66.		Holder
		28.	PTZ14P045FZK	Screw		67.		Connector (5P)
		29.	CNV1298	Lens		68.		Connector (5P)
	*	30.	CAC1281	Button (KE-4515/US)		69.	CDE1412	Connector (6P)
	*	31.	CAC1281	Button		70.	CDK-206	Connector (3P)
		32.		Plate		71.		Connector (2P)
		33.	CNV1297	Lens		72.		Connector (8P)
		34.	CAC1279	Button		73.		Connector (6P)
	*	35.	CAC1280	Button		74.	CDE1410	Connector (3P)
		36.	VACANT			75.	CKS-465	Plug (8P)
		37.	CBH1033	Spring		76.	CKS-128	Plug (5P)
		38.	CAT1056	Door (KE-4242/UC)		77.	CKS-127	Plug (4P)
$\overline{}$			CAT1057	Door (KE-4515/US)		78.		Holder
U		39.	CXA1587	Grille Unit (KE-4242/US)		79.		Chassis Unit
			CXA1588	Grille Unit (KE-4515/US)		80.	CNW-829	Cap
	*	40.	CAC1278	Button				
		41.	BMZ26P050FMC	Screw				

ELECTRICAL PARTS LIST

NOTE:

When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	56×10^{1}	561	
47kΩ	47×10^{3}	473	
0.5Ω	0R5	***************************************	RN2H 🛈 🖪 🗉 K
1Ω	010		RS1P 同日同 <i>K</i>

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MOTHER UNIT MISCELLANEOUS

ark	Symbol & Description	Part No.	Mark	Symbol &	Description	Part No.
**	IC51	LA1140B	*	D207		KV1235Z3
**	IC101	KHA115	*	D251, 252	, 503, 509 512	US1040 or
**	IC151	LA3430P				1S1555 or
**	IC201	LA1135				152473
**	IC251	M51522AL	*	D501		RD4R7ESB1 or
**	1C404	AN6540				MTZ4R7JA
* *	IC451	TA75558P	*	D504		HZS5R6JB2 or
* *	IC501	PD4073B				RD5R6JSB2
* *	IC551	TA7280P	*	D516		RD6R8ESB2
**	Q1, 54, 515, 658, 662	2SA1048 or	*	D601		MTZ9R1JA or
		2SA933S				
						RD9R1ESB1
**	Q51, 52, 202 — 204	2SC2458	*	D607		ERA15-02VH
* *	Q201	2SK435	*	D657		MTZ9R1JC or
**	Q251 — 254	2SC2458 or				RD9R1ESB3
		2SC1740S		L1	Ferri-Inductor	CTF-156
**	Q501, 502	2SA1150				
				L2	Ferri-Inductor	CTF1038
**	Q503, 510	UN4216		L51	Ferri-Inductor	CTF-155
**	Q504 — 506, 509, 511, 512, 516	2SC2458		L201	Ferri-Inductor	CTF-157
* *	Q513	2SC3113		L601	Coil	CTF-002
**	Q514	2SC2498 or		T51	Coil	CTC-198
		2SC2026	4			
				T201	Coil	CTB1011
* *	Q601, 602, 655, 656, 659	2SC2458 or		T202	Coil	CTB1012
		2SC1740S		T203, 204	Coil	CTB1013
* *	Q603	2SC2060 or		T205	Coil	CTE1011
		2SD667		T206	Coil	CTE1012
* *	Q651, 652	2SD1468S				
				T207	Coil	CTB1014
	Q663, 664	2SD1468S		CF51, 52	Ceramic Filter	CTF-182
*	D151 - 153, 201, 202, 205, 206,	US1040M or		CF201	Filter	CTF-240
	253, 502, 506 -508, 513, 514,	1SS176 or		CF202	Ceramic Resonator	CTF-247
	651 — 656	1SS133	**	VR51	Semi-fixed, 330k Ω (B)	CCP-254
*	D203, 204, 253	US1040M				

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Mark	Symbol & Description	Part No.	Mark	Symbol & Description	Part No.
**	VR151 Semi-fixed, 15kΩ (B)	CCP-246		C209	CCPCH010M50L
**		CCS1038		C217	CEA3R3M50L2
^ ^	(TREBLE, BASS, FADE			C218	CEA4R7M35L2
	POWER)	• •		C220	CCDCH150J50L
	10112117			C221	CQPA511G2A
	CG1	CCX-006		322 1	.
	CT501 Trimmer, 20P	CCG-070		C222	CCCRH180J50
	X151 Ceramic Resonator, 57kl			C224	CKPYB102K50L
	X501 X'tal, 4.5MHz	CSS-046		C226	CEA101M10L2
	-	CSD1001		C228	CCDSL220J50L
**		C3D 1001		C251, 252 (KE-4242/UC)	CKPYB471K50L
	(BAND, MEMO/TONE,			0231, 232 (RE-4242) 007	OKI I B47 TKOOL
	BALANCE)			C251, 252 (KE-4515/US)	CKPYB391K50L
				C253, 254	CEANL4R7M35LL
RESIST	TORS			C255, 256	CEA470M16LS
				C257, 258, 261, 262	CGCYX103K25
Mark	Symbol & Description	Part No.		C259, 260	CGCYX223K25
	R51 - 58, 60 -69, 101 - 104,	RD1/4PS□□□JL		C239, 200	CGCTAZZSKZS
	152 - 158, 201 - 218, 251,252,			C263	CEA221M10L2
	255 – 270, 451 –462, 501 –506,			C451, 452	CEA100M25LS
	508,— 520, 522, 524 — 537,			C453 - 456	CQMA182K50LL
	551 - 556, 558 - 561, 564, 565,			C457, 458	CQMA333J50L
	551 - 556, 556 - 561, 564, 565,			C459, 460	CCPSL330J50L
	601 — 613, 652, 655, 658 — 663				
	R59, 507, 523, 557, 651, 656	RD1/4PM□□□J		C461, 464	CEA010M50LS2
	R562, 563	RS1POOOJL		C462, 463	CEA010M50L2
	R271, 272 (KE-4515/US)	RD1/4PS □□□JL		C465	CEAR47M50L2
CADA	CITORS			C466	CEAR47M50LS2
CAPA				C501	CCCCH090 D50
Mark	Symbol & Description	Part No.		C503	CEA331M6R3L2
	C1, 51 — 54, 59, 67, 68, 153, 203	CGCYX223K25		C504, 653	CGCYX103K25
	C2	CCDPH390J50		C506, 507	CKPYB101 K50L
	C3, 228	CCDSL220J50L		C508	CKDBC223K25
	C4	CKDBC102K25		C551, 552	CKDYB331 K50
	C5	CCL-068		0001, 002	CRD 1 B03 1 R30
	00			C553, 554	CEA010M50LS2
	C55, 62	CCCSL330J50		C555, 556, 563	CEA470M1 6L2
	C6, 7, 57, 61, 201, 213	CGCYX103K25		C557, 558	CEA101M1 0L2
	C56, 63, 151, 216	CEAR47M50LS2		C559, 560	CQMA224J50L
	C58, 156, 616	CEA010M50LS2		C561, 562	CEA102M1 0L2
	C60	CKPYB101K50L			
	000	•		C564	CEA222M1 6L2
				200.	
	CEA	CKCYB561K50		C565	CQMA154JI50L
	C64	CKCYB561K50 CEA470M16L2			CQMA154JI50L CEA010MI50NPLL
	C65, 204	CEA470M16L2		C565	
	C65, 204 C101, 102, 255, 256	CEA470M16L2 CEA470M16LS		C565 C601, 602	CEA010M50NPLL
	C65, 204 C101, 102, 255, 256 C103	CEA470M16L2 CEA470M16LS CEA4R7M16NPLL		C565 C601, 602 C603, 604	CEA010M50NPLL CEA100M25LS
	C65, 204 C101, 102, 255, 256	CEA470M16L2 CEA470M16LS		C565 C601, 602 C603, 604	CEA010M50NPLL CEA100M25LS
	C65, 204 C101, 102, 255, 256 C103 C152	CEA470M16L2 CEA470M16LS CEA4R7M16NPLL CGCYX332K25		C565 C601, 602 C603, 604 C607	CEA010M50NPLL CEA100M25LS CEA221M10L2
	C65, 204 C101, 102, 255, 256 C103 C152	CEA470M16L2 CEA470M16LS CEA4R7M16NPLL CGCYX332K25 CKDBC153K25		C565 C601, 602 C603, 604 C607	CEA010M50NPLL CEA100M25LS CEA221M1 0L2 CEA101M1 0L2
	C65, 204 C101, 102, 255, 256 C103 C152 C154 C155	CEA470M16L2 CEA470M16LS CEA4R7M16NPLL CGCYX332K25 CKDBC153K25 CEA3R3M50LS		C565 C601, 602 C603, 604 C607 C608, 609 C612, 613	CEA010M50NPLL CEA100M25LS CEA221M10L2 CEA101M10L2 CEA100M25LS
	C65, 204 C101, 102, 255, 256 C103 C152 C154 C155 C157	CEA470M16L2 CEA470M16LS CEA4R7M16NPLL CGCYX332K25 CKDBC153K25 CEA3R3M50LS CSZAR22M35		C565 C601, 602 C603, 604 C607 C608, 609 C612, 613 C615	CEA010M50NPLL CEA100M25LS CEA221M10L2 CEA101M10L2 CEA100M25LS CEA470M16L2
	C65, 204 C101, 102, 255, 256 C103 C152 C154 C155 C157 C159, 160	CEA470M16L2 CEA470M16LS CEA4R7M16NPLL CGCYX332K25 CKDBC153K25 CEA3R3M50LS CSZAR22M35 CKDBC393K25		C565 C601, 602 C603, 604 C607 C608, 609 C612, 613 C615	CEA010M50NPLL CEA100M25LS CEA221M10L2 CEA101M10L2 CEA100M25LS CEA470M16L2 CEA101M50L2
	C65, 204 C101, 102, 255, 256 C103 C152 C154 C155 C157	CEA470M16L2 CEA470M16LS CEA4R7M16NPLL CGCYX332K25 CKDBC153K25 CEA3R3M50LS CSZAR22M35		C565 C601, 602 C603, 604 C607 C608, 609 C612, 613 C615	CEA010M50NPLL CEA100M25LS CEA221M10L2 CEA101M10L2 CEA100M25LS CEA470M16L2 CEA101M50L2
	C65, 204 C101, 102, 255, 256 C103 C152 C154 C155 C157 C159, 160 C161	CEA470M16L2 CEA470M16LS CEA4R7M16NPLL CGCYX332K25 CKDBC153K25 CEA3R3M50LS CSZAR22M35 CKDBC393K25		C565 C601, 602 C603, 604 C607 C608, 609 C612, 613 C615 C617	CEA010M50NPLL CEA100M25LS CEA221M10L2 CEA101M10L2 CEA100M25LS CEA470M16L2 CEA101M50L2 CEA100M25LS
	C65, 204 C101, 102, 255, 256 C103 C152 C154 C155 C157 C159, 160 C161	CEA470M16L2 CEA470M16LS CEA4R7M16NPLL CGCYX332K25 CKDBC153K25 CEA3R3M50LS CSZAR22M35 CKDBC393K25 CEA220M16L2 CGCYX222K25		C565 C601, 602 C603, 604 C607 C608, 609 C612, 613 C615 C617 C651	CEA010M50NPLL CEA100M25LS CEA221M10L2 CEA101M10L2 CEA100M25LS CEA470M16L2 CEA101M50L2 CEA100M25LS CEA330M16LS
	C65, 204 C101, 102, 255, 256 C103 C152 C154 C155 C157 C159, 160 C161 C202 C205, 208, 211, 212, 214, 215,	CEA470M16L2 CEA470M16LS CEA4R7M16NPLL CGCYX332K25 CKDBC153K25 CEA3R3M50LS CSZAR22M35 CKDBC393K25 CEA220M16L2		C565 C601, 602 C603, 604 C607 C608, 609 C612, 613 C615 C617 C651	CEA010M50NPLL CEA100M25LS CEA221M10L2 CEA101M10L2 CEA100M25LS CEA470M16L2 CEA101M50L2 CEA100M25LS CEA470M16LS CEA470M16LS
	C65, 204 C101, 102, 255, 256 C103 C152 C154 C155 C157 C159, 160 C161 C202 C205, 208, 211, 212, 214, 215, 219, 223, 225	CEA470M16L2 CEA470M16LS CEA4R7M16NPLL CGCYX332K25 CKDBC153K25 CEA3R3M50LS CSZAR22M35 CKDBC393K25 CEA220M16L2 CGCYX222K25		C565 C601, 602 C603, 604 C607 C608, 609 C612, 613 C615 C617 C651	CEA010M50NPLL CEA100M25LS CEA221M10L2 CEA101M10L2 CEA100M25LS CEA470M16L2 CEA101M50L2 CEA100M25LS CEA470M16LS CEA470M16LS
	C65, 204 C101, 102, 255, 256 C103 C152 C154 C155 C157 C159, 160 C161 C202 C205, 208, 211, 212, 214, 215,	CEA470M16L2 CEA470M16LS CEA4R7M16NPLL CGCYX332K25 CKDBC153K25 CEA3R3M50LS CSZAR22M35 CKDBC393K25 CEA220M16L2 CGCYX222K25 CGCYX223K25		C565 C601, 602 C603, 604 C607 C608, 609 C612, 613 C615 C617 C651	CEA010M50NPLL CEA100M25LS CEA221M10L2 CEA101M10L2 CEA100M25LS CEA470M16L2 CEA101M50L2 CEA100M25LS CEA470M16LS CEA470M16LS

KEY BOARD UNIT

SWITCH P.C. BOARD

Mark	Symbol & Description	Part No.	Mark	Symbol	& Description	Part No.	
* *	LCD D901 LED (METAL) D902 LED(NS)	CWW1054 SLR-320PG3KL SLR-320VR3FKL	**	S1, 2 S3	Switch (MUTE, MOTOR) Switch (TAPE/TUNER)	ESN1001 HSK-126	
* *	IL901 – 903 Lamp, 14V 40mA	CEL1004 or CEL1025	P.C. Bo	OARD	UNIT		
			Mark	Symbol & Description		Part No.	
			**	S1	Switch (FWD/REV)	ESH1001	
			Miscell	aneous	Parts List		
			Mark	Symbol	& Description	Part No.	
			**	HD1	Head (KE-4242/UC)	EPB1001	
			**	HD1	Head (KE-4515/US)	EPB1002	
			**	M1	Motor	EXA1013	

CASSETTE MECHANISM ASSY EXPLODED VIEW

• Part List (Page 71)

KE-3232/UC			KE-3232/UC KE-4242/UC			
Mark	No.	Part No.	Part No.	Part No.	Description	
**	43. 60.	ENV 1016 EPB 1001	ENV1016 EPB1001	ENV1024 EPB1002	Tape Guide Head	
* *	62.	ENP1003	ENP1003	ENP1007	P.C. Board	

PACKING METHOD

• Part List (Page 79)

KE-3232/UC			KE-4242/UC	KE-4515/US		
Mark	No.	No. Part No. Part No.		Part No.	Description	
	1.	CHG1270	CHG1265	CHG1269	Carton	
	2.	CXA1773	CXA1773	CXA1637	Knob Assy	
+	★ 2-2 .	CAA1054	CAA1054	CAA1058	Knob	
	4.	CRD1124	CRD1125	CRB1082	Owner's Manual	
	12.	CHL1270	CHL1265	CHL1269	Contain Box	







ORDER NO. CRT 1090

CASSETTE CAR STEREO WITH FM/AM ELECTRONIC TUNER

UC, ES

UC, ES

US

NOTE:

See the separate manual CRT1094 for the cassette mechanism Assy (EXK1130).

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14. SCHEMATIC CIRCUIT DIAGRAM	(KE-2515/US)	15. CONNECTION DIAGRAM (KE-2515/US)	16. SCHEMATIC CIRCUIT DIAGRAM	(KE-3232/ES)	17. CONNECTION DIAGRAM (KE-3232/ES)	18. SCHEMATIC CIRCUIT DIAGRAM	(KE-2222/ES)	19. CONNECTION DIAGRAM (KE-2222/ES)64	20. EXPLODED VIEW	21. CASSETTE MECHANISM ASSY	EXPLODED VIEW	22. ELECTRICAL PARTS LIST	23. PACKING METHOD
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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A. TEL: (213) 420-5700 PIONEER ELECTRONIC (EUROPE) N.Y. Keetbergaan 1, 2740 Beveren, Belgium TEL: 03/775-28-08 PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia

1694

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1. SPECIFICATIONS

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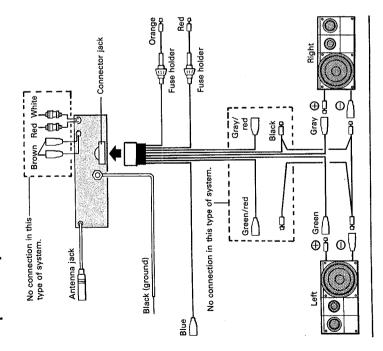
eneral	FINI tuner
V DC (10.8	Frequency range
Grounding system	(NE-3232/OC, 3011/OS, 2222/OC, 2313/OS)
Max. Current consumption (KE-3232/UC, ES, 3011/US)2.5A	(KE-3232/ES, 2222/ES)
(KE-2222/UC, ES, 2515/US)	Usable sensitivity 12dBf (1.1 μ V/75 Ω , mono)
Dimensions (chassis)170(W) \times 50(H) \times 130(D)mm	50dB quieting sensitibity 17dBf (1.9 μ V/75 Ω , mo $^{\rm n}$)
$[6-3/4(W) \times 2H \times 5-1/8(D) \text{ in.}]$	Signal-to-noise ratio
(nose)105(W) x 42(H) x 36(D)mm	(KE-323Z/UC, 222Z/UC, 3U11/US, 2515/US)
Chaft interval 130 or 147mm [5-1/8 or 5-3/4in.]	Signal-to-noise ratio (KE-3232/ES, 2222/ES)
Weight	
(KE-3232/UC, ES, 3011/US)1.5kg (3,3lbs)	Distortion
(KE-2222/UC, ES, 2515/US)1.4kg (3,11bs)	Frequency response50 - 15,000 Hz (±3d8)
Amplifier	Stereo separation 35dB (at 65dBf, 1kHz)
Continuous power output is 3.2W per channel min. into	AM tuner (KE-3232/UC, 2222/UC, 3011/US, 2515/US)
4 ohms, both channels driven 50 to 15,000 Hz with no	Frequency range 530 – 1,620kHz
more than 5% THD.	Usable sensitivity
Maximum power output $8.5W \times 2/7W \times 4$ (EIAJ)	AM tuner (KE-3232/ES, 2222/ES)
(KE-2515/US) 8.5W x 2 (EIAJ)	Frequency range (Initial setting) 531 – 1,602kHz
Continuous power output (KE-3232/ES)	(New setting) 530 – 1,620kHz
$\dots \dots $	Usable sensitivity18 μ V (25dB) (S/N: 20dB)
Continuous power output (KE-2222/ES)	Selectivity (Initial setting)50dB (±9kHz)
	(New setting)50dB (±10kHz)
Loga Impedance (KE-3232/UC, ES, 3011/US) 4Ω (4—8Ω allowable)	These specifications were determined and are presented in
(KE-2222/UC, ES, 2515/US) 4Ω (2–8Ω allowable)	accordance with specification standards established by the
Maximum output level/output impedance (RCA)	Ad Hoc Committee of Car Stereo Manufacturers.
(KE-3232/UC) $\dots \dots \dots$	
Tone controls (bass) (KE-3232/UC, ES) ±10dB (100Hz)	Note:
(treble) (KE-3232/UC, ES) ±10dB (10kHz)	Specifications and the design are subject to possible mo-
Loudness countour +8dB (100Hz) (Volume: -30dB)	diffication without notice due to improvements.
Loudness countour (KE-3232/ES, 2222/ES)	
+12dB (100Hz), +7dB (10kHz) (Volume: —30dB)	
l ape player Tomport reseatte tape (C.30 — C.90)	
Tabe speed 4.76cm/sec. (+0.14cm/sec., -0.05cm/sec.)	
Fast forward/rewind time Approx. 100sec. for C-60	
Wow & flutter 0.13% (WRMS)	
Frequency response (KE-3232/UC, ES, 3011/US)	
NOFMAI: 5U — 14,0U0H2 (±5UB)	
Tequesicy Cappaign (1)	
Stereo separation	
Signal-to-noise ratio	
(KE-3232/UC, 2222/UC, 3011/US, 2515/US)	
(KE-3232/E3, 2222/E3) 320B (IEC-7) 11610010)	

2. CONNECTION

- Note:
 To avoid shorts in the electrical system, be sure to disconnect the battery \(\to \) cable before beginning installation.
 Replace fuses only with the types stipulated on the fuse holder.
 Be sure to properly connect the color coded leads. Failure to do so can cause malfunctions.
 Cover unused terminals with tape to prevent electrical shorts.
- (KE-3232) Refer to the power amp owner's manual when connecting a
- power amp (sold separately) to the pin jack.
 When using a separately available power amp with RCA terminal in a 4-speaker system with fader control capabilities, connect the brown leads from this unit to the green and gray output leads of this unit. (KE-3232)

Black (ground)	Black (ground) To vehicle (metal) body.
Blue	System control/Auto-antenna relay control terminal (Max. 300 mA 12 V DC).
Orange	To terminal always supplied with power regardless of ignition switch position.
Red	To electric terminal controlled by ignition switch (12 V DC) ON/OFF.

2-speaker system KE-3232



4-speaker system 1 KE-3232

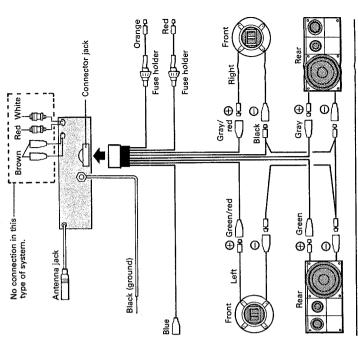


Fig. 1

KE-3232
4-speaker system 2 [Using separately available amp.]

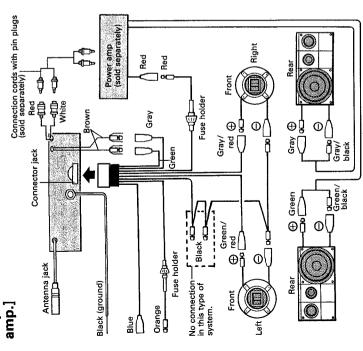
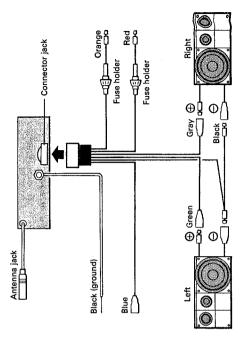
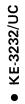


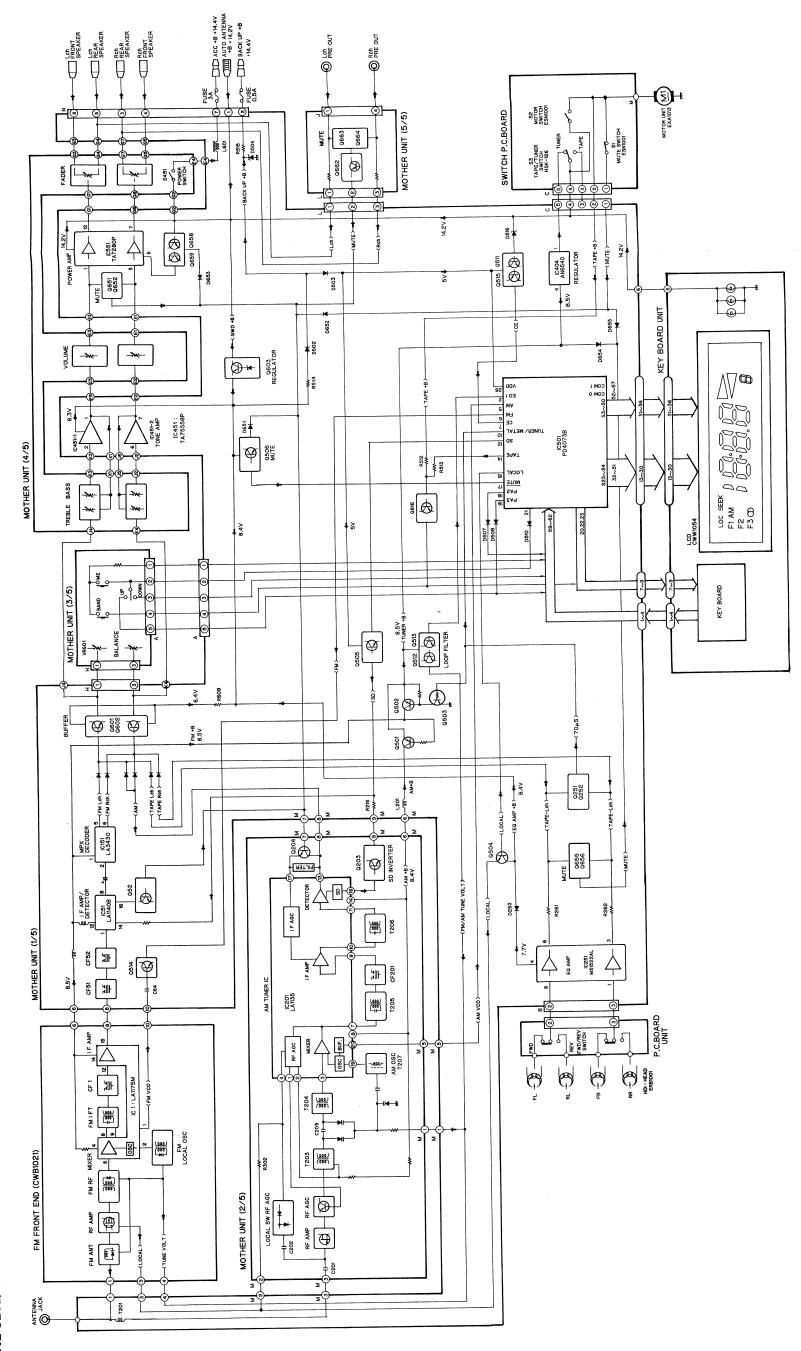
Fig. 3

KE-2222



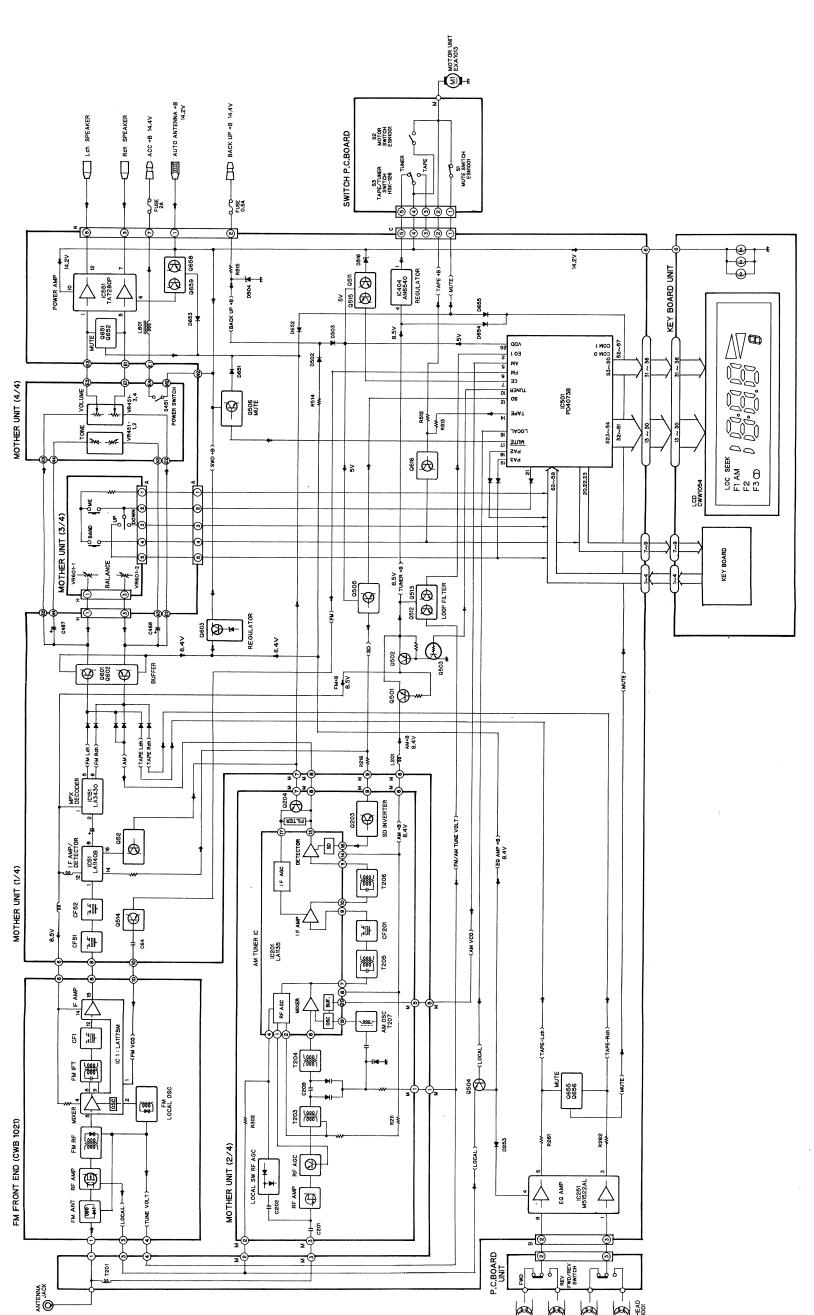
3. BLOCK DIAGRAM





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KE-2222/UC

KE-3232

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4. LEVEL DIAGRAM

KE-3232/UC, ES, 3011/US

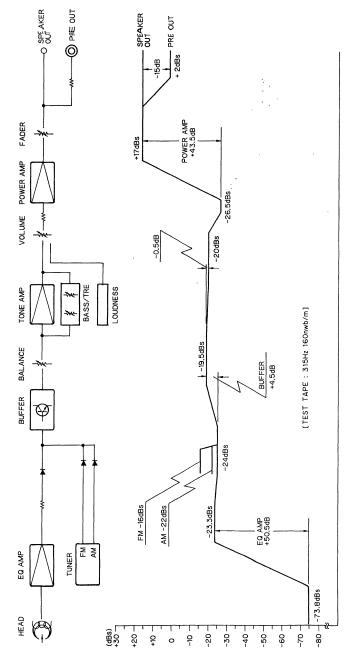


Fig. 7

KE-2222/UC, ES, 2515/US

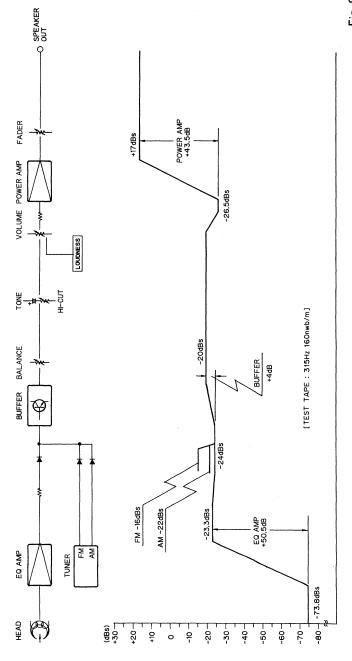
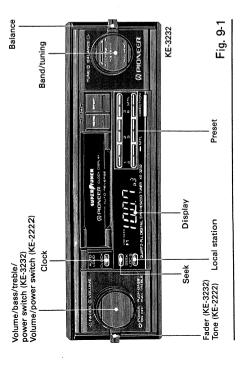


Fig. 8

5. OPERATION

Using the Radio



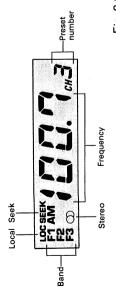


Fig. 9-2

Local Station Switch

Pressing this switch lowers the seek tuning reception sensitivity so that only stronger signals can be tuned in. This feature is convenient when driving through areas that have numerous radio stations. When this switch is depressed, the local indicator will be illuminated on the display.

Fader Control (KE-3232)

This control is used to adjust the balance between the front and rear speakers when using a 4-speaker system. Turning the control upwards decreases the volume of the rear speakers, while turning it downwards decreases the volume of the front speakers. With 2-speaker systems, set this control to a horizontal position.

Important
Aconsiderable amount of sound will continue to be produced from speakers of a Aspeaker system which have been cut by setting the fader control either to the front speakers or rear speakers. This tendency is especially noticeable when an separately available amp is connected. This is normal and does not indicate mal-

Auto-Loudness

When playing back a tape or listening to the radio at low volume, the low tone is automatically emphasized.

Clock Switch

Each press causes the display to switch between clock and frequency.

Before attempting operation...

- Reduce the volume by turning the volume control knob to the left.
 - Set the fader control to the left horizontal. (KE-3232)
- Turning the power switch to the right causes power to switch ON and the current frequency to appear on the display.
 - Press the band switch to select the band.
- Press the seek button and the seek tuning indicator will be displayed.
 - 4. Turn the tuning knob to the left or right to tune in the desired frequency. (Turning to the right will increase the frequency.)
 - Adjust the volume and balance. 'n.

KE-3232

6. Adjust the tone to the desired position. To adjust low tone, turn the volume knob while pressing it. For high tones, turn the volume knob after it has been pulled out until it clicks into place. Return the volume knob after adjusting the tone.

KE-2222

- Adjust the tone. ø.
- To enter a frequency into the preset memory...
- Pull the tuning knob and preset number will flash. (approximately 5 seconds)

Within 5 seconds, press one of the preset buttons (1-6) to enter the frequency into the memory. At this time the number of the button pressed will be displayed. Six FM1 frequencies, six FM2 frequencies, six FM3 frequencies and six AM frequencies can be

Seek Tuning

ing the tuning knob to the left or right. FM frequencies change in 0.2 MHz steps while those in the AM band change in 10 kHz steps. Press the seek button, and tuning to the next higher or lower broadcast on the band can be accomplished automatically by simply turn-

Preset Tuning

Pressing the preset button instantly tunes in the frequency programmed in the memory for that button.

Preset Scan Tuning (KE-2515/US)

Pressing the preset scan button (CH indicator flashes) causes previously stored frequencies to be tuned in sequentially for eight seconds each. Press again when the desired frequency is tuned in to cancel preset scan tuning.

Manual Tuning

When manual tuning is employed, FM frequencies change in 0.2 MHz steps while AM frequencies change in 10 kHz steps.

- 1. Press the seek button and the seek tuning indicator will disappear from the display.
- right. Turning the knob once will change the frequency one step (see above). Holding the tuning knob in either direction will successively change the frequency at the prescribed step. Change the frequency by turning the tuning knob to the left or

Using the Tape Deck

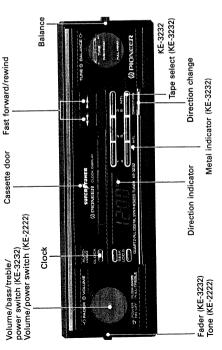


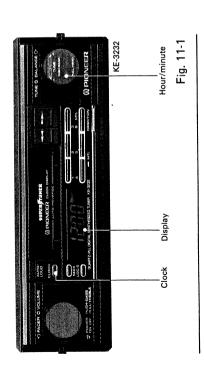
Fig. 10

- **Before attempting operation...**Reduce the volume by turning the volume control knob to the
- Set the fader control to the left horizontal. (KE-3232)
- Loading a cassette tape into the load solt causes playback to begin automatically. At this time, the tape transport direction is Turning the power switch to the right causes power to switch ON. noted on the display, along with the current time. The unit automatically switches to tape playback even if the radio in ON when the cassette is loaded.
 - Adjust the volume and balance.

3. Adjust **KE-3232**

Adjust the tone to the desired position. To adjust low tone, turn the volume knob while pressing it. For high tones, turn the volume knob after it has been pulled out until it clicks into place.

Setting the Time



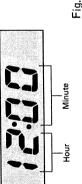


Fig. 11-2

Return the volume knob after adjusting the tone.

KE-2222

- 5. When tape playback reaches the end of the tape, playback will automatically switch from the side being played to the Opposite side (ie. Side A to Side B or vice versa) (Auto-reverse). To eject the tape during playback, simultaneously press the fast forward and rewind buttons. 4. Adjust the tone.
- Do not try to eject the cassette immediately after insertion, as it will cause malfunctioin. Wait a few seconds. Be sure to eject the tape when the vehicle's ignition is turned OFF. Leaving the tape in the unit can deform the pinch roller causing wow and flutter during tape playback.

Fast Forward/Rewind

Since the transport can be in either direction, both the leftand right high-speed tape transport buttons can be regarded as fast forward/ rewind buttons.

When the end of the tape is reached, playback will automatically begin from the opposite side of the tape (Auto-reverse). For rewind, press the button that is opposite that of the direction For fast forward, press the high-speed tape transport button that corresponds to the direction that is shown by the direction indicator.

shown by the direction indicator. When the end of the tape is reached, playback will automatically begin from the beginning of the same side of the tape (Auto-replay).

Fast forward and rewind can be terminated by pressing the respective opposite high-speed tape transport button.

Direction Change Button

This button is used to switch from one side of the tape to the other (from Side A to Side B or vice versa).

• Tape Select Switch (KE-3232)

This switch is used to switch to the proper mode for the tape being used and should be depressed when using chrome or metal tapes.

- Press the clock switch to switch to the time display.

 Pull the hour/minute control knob towards you and turn it to the left to advance hours. Turn to the right to advance minutes. Holding the knob in either position consecutively advances the respective hour/minute display.



• Switching the Tuning Steps (KE-3232/ES, 2222/ES)

Tuning Step Switch

The tuning step switch is located on the bottom of the unit and is set at shipment from the factory as shown in Fig. 12-1. The setting of this switch should be changed to that shown in Fig. 12-2 for use in North America, Central America, or South America.

5	Specification Tuning steps	Initial Setting 9 kHz steps	New Setting 10 kHz steps
red	Frequency range	531 - 1,602 kHz	530-1,620 kHz

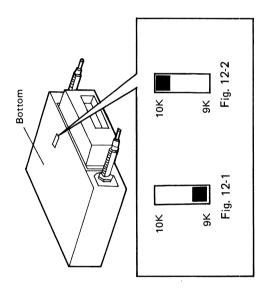
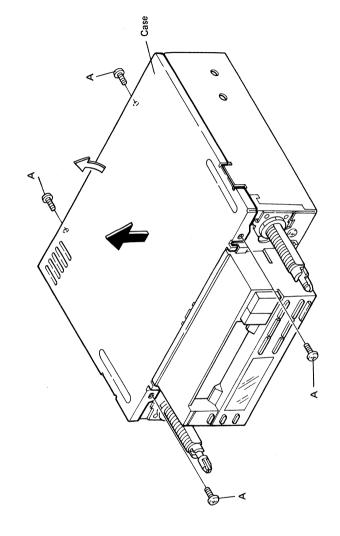


Fig. 13

6. DISASSEMBLY

- Removing the Case
 Remove the four screws (A), and remove the Case



Removing the Grille Assy
 Remove the two hooks.

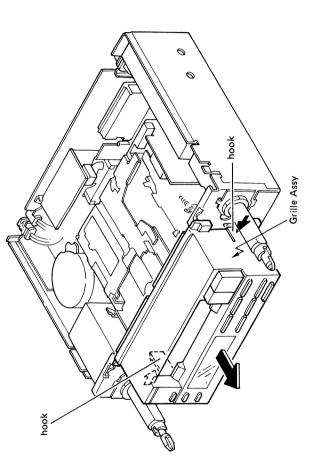
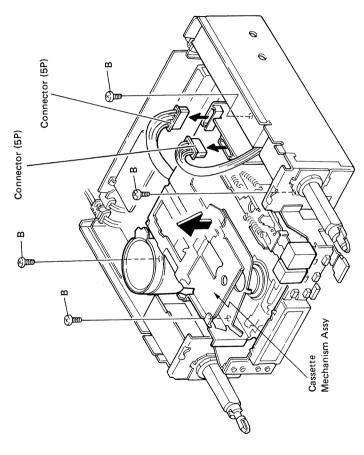


Fig. 14

Removing the Cassette Mechanism Assy 1. Remove the Connectors (5P x 2). 2. Remove the four screws (B).



• Removing the chassis Unit 1. Remove the five screws (C). 2. Stretch the claw.

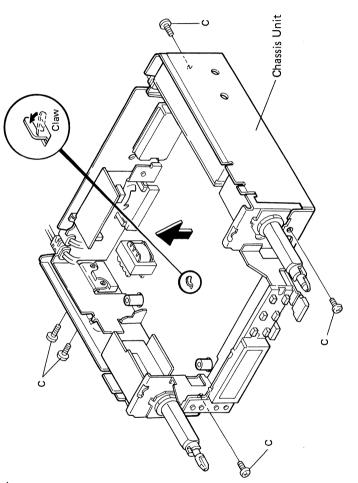


Fig. 16

7. ADJUSTMENT

7.1 HEAD AZIMUTH ADJUSTMENT

Connection Diagram

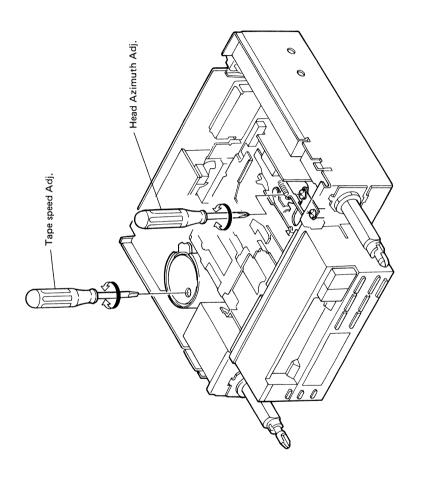


Fig. 18

- To Adjust
 Play "A" side of STD-341A (10kHz, -20dB). Adjust each screw for maximum output in forward and reverse directions.
 - 2. Play "B" side in forward and reverse directions to confirm adjustment.

7.2 TAPE SPEED ADJUSTMENT

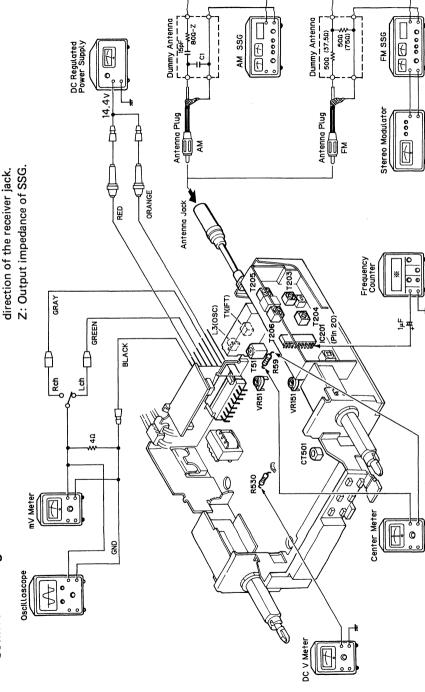
- Connection Diagram (shown in Fg. 18)
- To adjust
- 1. Reproduce STD-301 (3kHz, -10dB). Adjust the semi-fixed resistor so that the frequency counter shows 3,010Hz (+30Hz, -30Hz).

7.3 FM IF ADJUSTMENT

Connection Diagram

Select C1 so that total capacity of 80pF is attained from the

NOTICE:



* 2070kHz: KE-3232/UC, 3011/US, 2222/UC, 2515/US 2052kHz: KE-3232/ES, 2222/ES

To Adjust

- 1. Apply a signal of 98.1MHz, 400Hz, 100% modulation and 60dB (μ V) from the FM SSG and tuner 98.1MHz.
 - Adjust T51 to make the center meter show 0. 7

7.4 AUTO LEVEL ADJUSTMENT

Connection Diagram (Shwon in Fig. 19)

To Adjust

- Set SSG at 98.1MHz and tune using the tuning button. Set SSG to an output level of 35 dB (μ V), and adjust VR151 to a separation of 5 dB (between the right and left channels).

7.5 FM SCAN SENSITIVITY

Connection Diagram (Shown in Fig. 19)

To Adjust

Turn off the Local Station Seek switch.

- a 98.1MHz (400Hz, 100% modulation) output level 25dB (μ V) signal from the SSG. Add 5
- Push the SEEK button, and adjust VR51 so that the SEEK stops. က
 - Set the SSG output level to 14dB (μ V). And check to make sure that the SEEK doesn't stop. 4.
- Push the Local Station Seek switch and set it to Loc.S. Check to make sure that the SEEK stops when the SSG
 - output level is 47 \pm 10dB (μ V). . 9
- If it is not within specifications, repeat the procedure starting at step one.

7.6 AM (MW) TRACKING ADJUSTMENT

• Connection Diagram (shown in Fig. 19)

To Adjust (KE-3232/ES, 2222/ES)

Frequency of AM SSG	Displayed Frequency	Adjusting Point	DC V Meter	mV Meter
-	1,602 kHz	For Confirmation only	Less than 7.4V	
2.	531 kHz	For Confirmation only 0.7V	More than 0.7V	
$_3$ 603 kHz (400 Hz, 30% modulation) soutput level 25 dB (μ V)	603 kHz	T203, T204 T205, T206		Maximum output
603 kHz 4. 999 kHz (400 Hz, 30% modulation) 1,395 kHz output level 35 dB (μV)	603 kHz 999 kHz 1,395 kHz	For Confir- mation Only		The difference between the maximum and minimum output levels at 603 kHz, 999 kHz, and 1,395 kHz must be 6 dB or less.

To Adjust (KE-3232/UC, 3011/US, 2222/UC, 2515/US)

Frequency of AM SSG	Displayed Frequency	Adjusting Point	DC V Meter	mV Meter
1.	1,620 kHz	For Confir- mation only	Less than 7.4V	
2.	530 kHz	For Confirmation only 0.7V	More than 0.7V	
$_3$. 600 kHz (400 Hz, 30% modulation) output level 25 dB (μ V)	600 kHz	T203, T204 T205, T206		Maximum output
600 kHz 4. 1,000 kHz (400 Hz, 30% modulation) 1,400 kHz output level 35 dB (μ V)	600 kHz 1,000 kHz 1,400 kHz	For Confirmation Only		The difference between the maximum and minimum output levles at 600 kHz, 1,000 kHz, and 1,400 kHz must be 6 dB or less.

7.7 FM TRACKING ADJUSTMENT

Connection Diagram (shown in Fig. 19)

To Adjust (KE-3232/ES, 2222/ES)

Frequency of FM SSG	Displayed Frequency	Adjusting Point	DC V Meter	mV Meter
1.	108 MHz	L3	Less than 7.4V	
2.	87.5 MHz		More than 1.6V	
3. 98.1 MHz (400Hz, 100% modulation) output level 5~10 dB (µV)	98.1MHz	F		Maximum output

To Adjust (KE-3232/UC, 3011/US, 2222/UC, 2515/US)

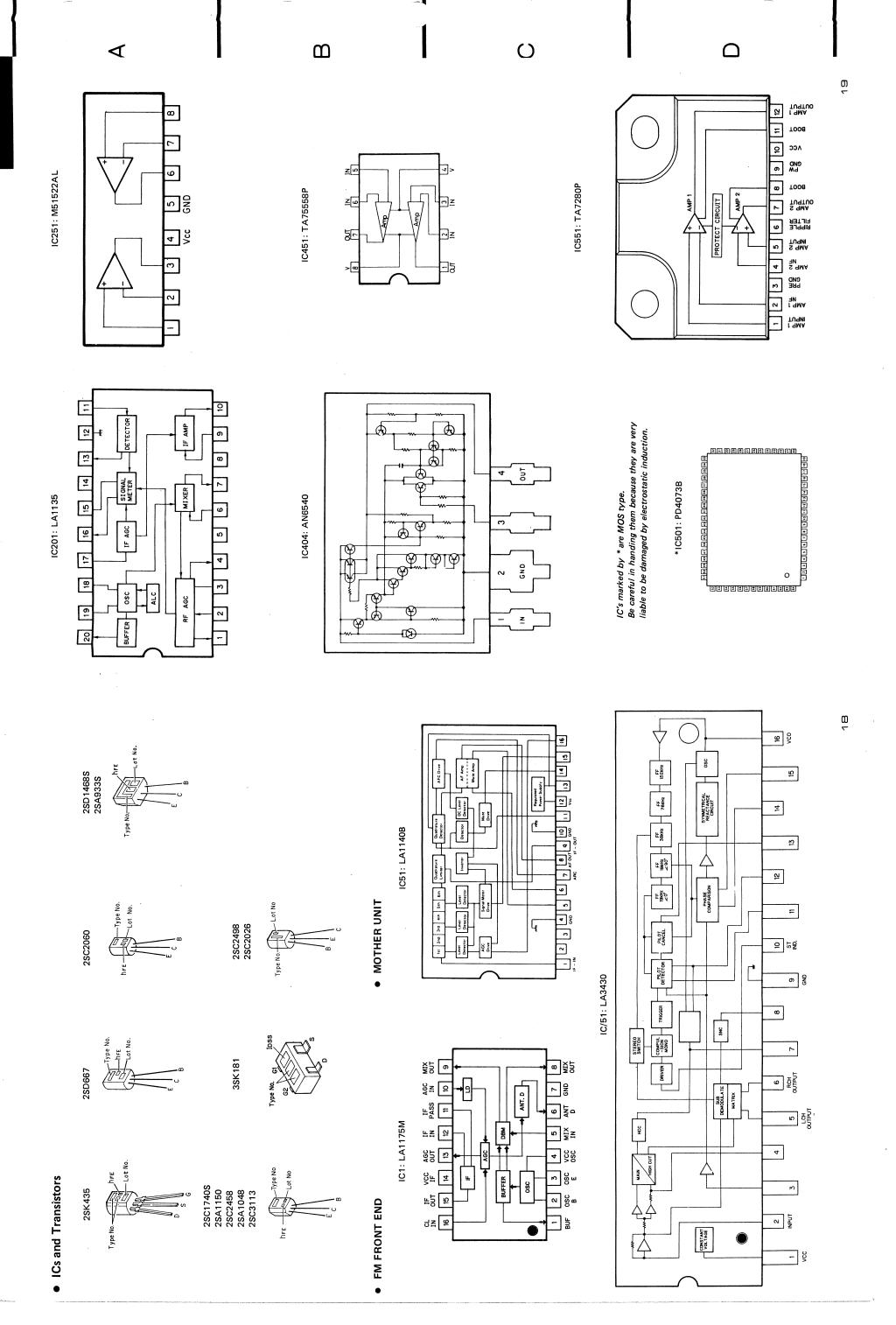
Frequency of FM SSG	Displayed Frequency	Adjusting Point	DC V Meter	mV Meter
1.	107.9 MHz		L3 Less than 7.4V	
2.	87.9 MHz		More than 1.6V	
3. 98.1 MHz (400 Hz, 100% modulation) output level $5 \sim 10$ dB (μ V)	98.1 MHz	Т1		Maximum output

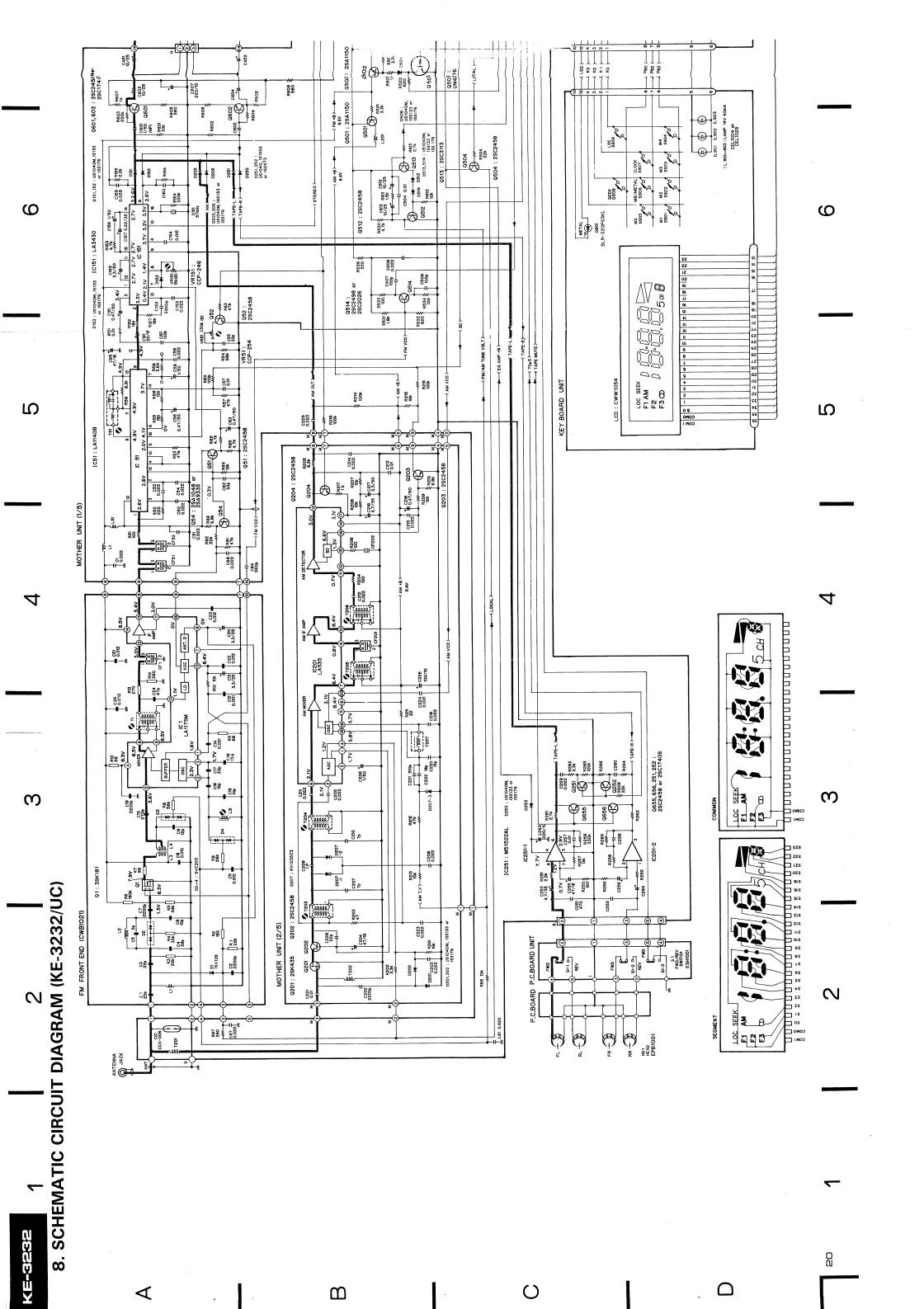
7.8 REFERENCE OSCILLATION FREQUENCY ADJUSTMENT

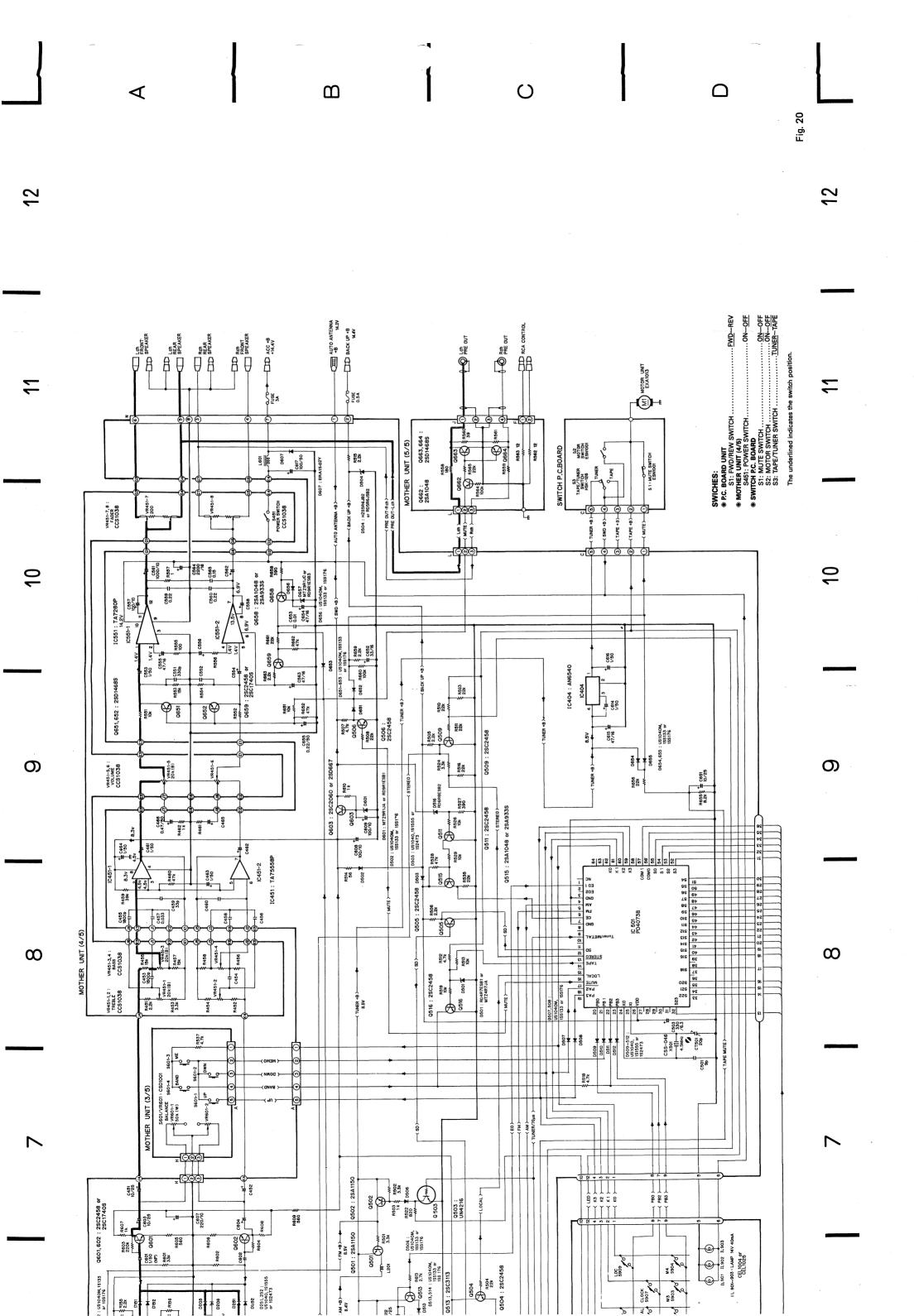
Connection Diagram (shown in Fig. 19)

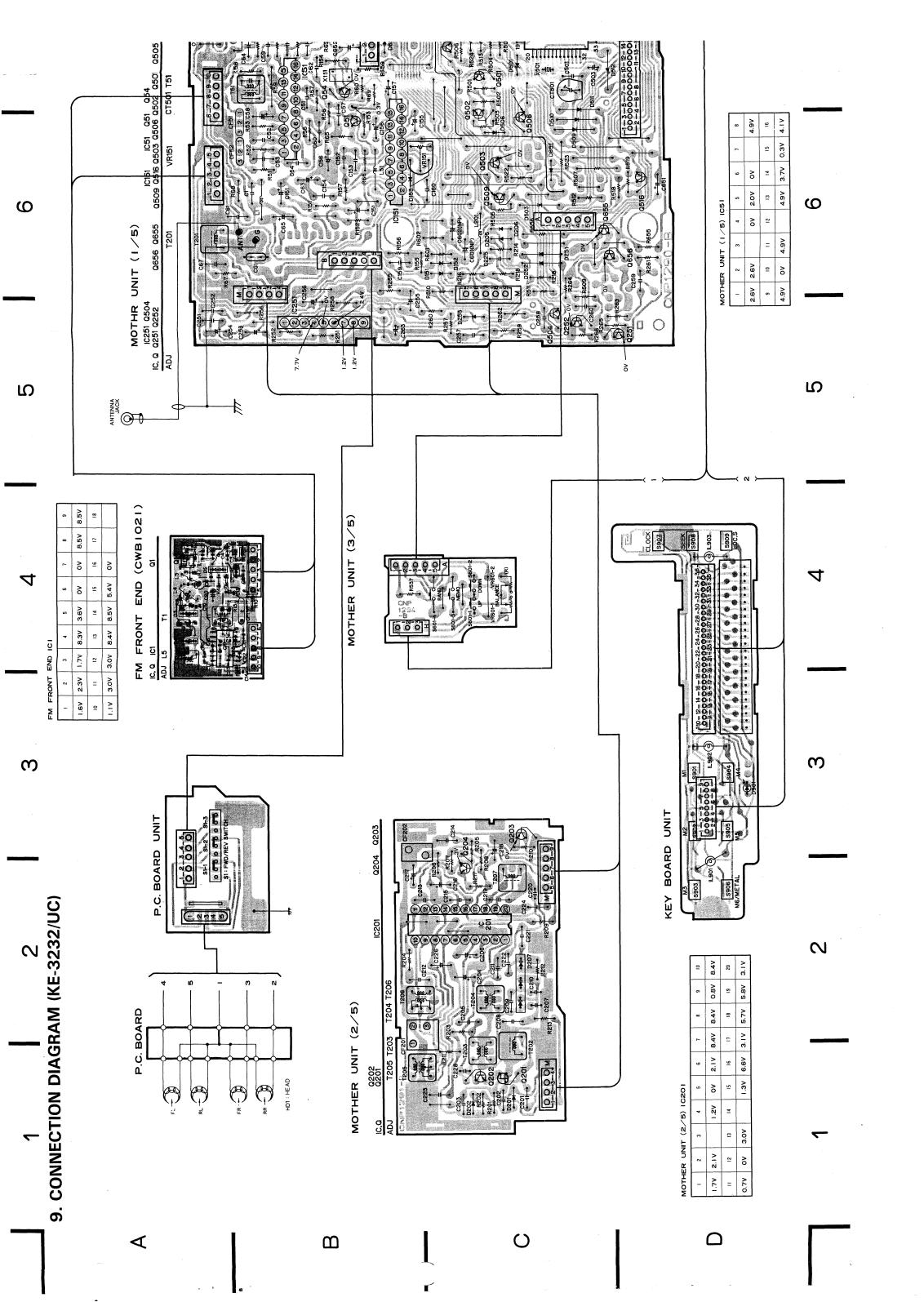
To Adjust (KE-3232/UC, 3011/US, 2222/UC, 2515/US) Set the AM position. Set the LCD display to 1620KHz. Adjust CT501 sot that the frequency counter display becomes 2070kHz ±40Hz.

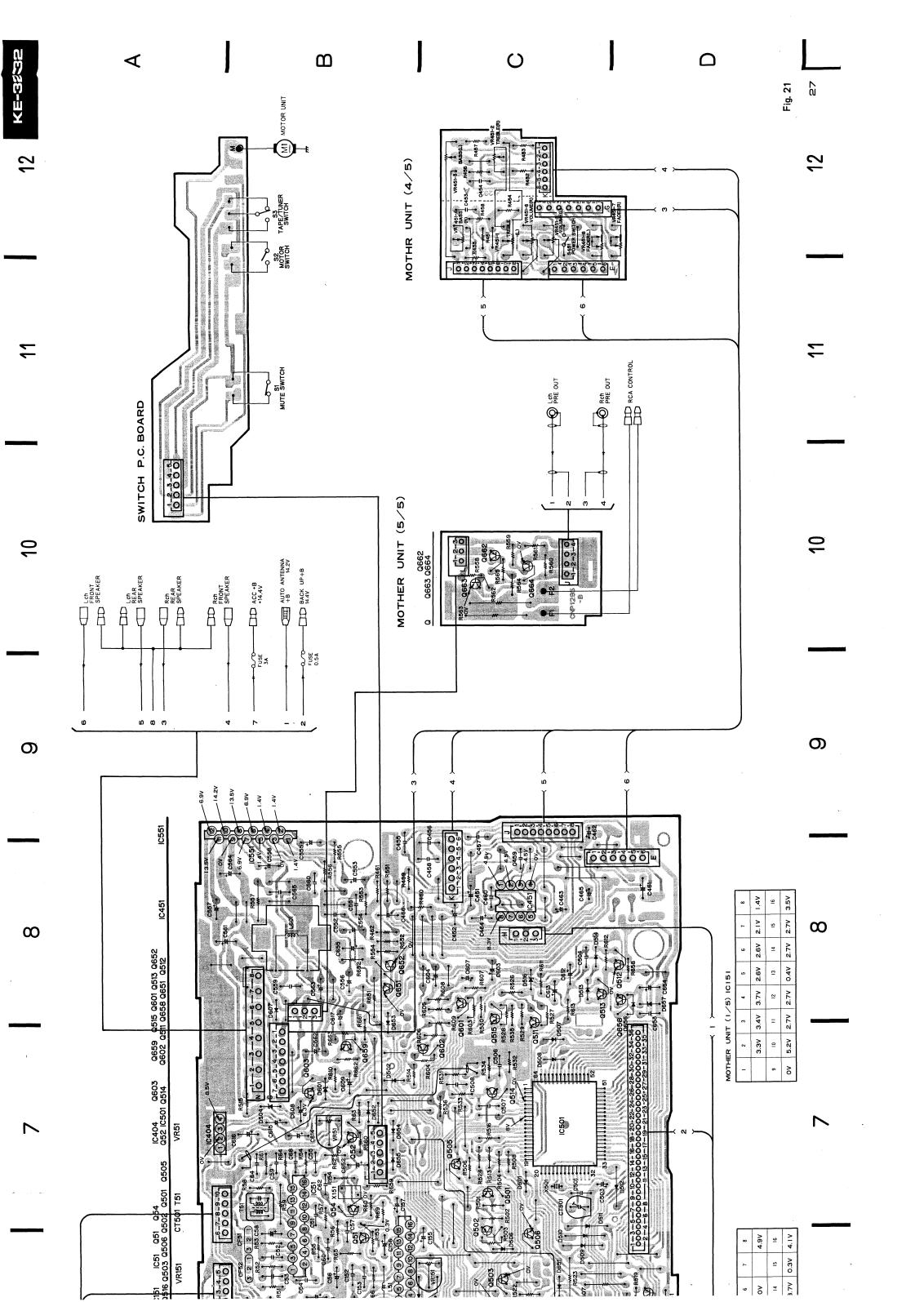
To Adjust (KE-3232/ES, 2222/ES)
 Set the AM position.
 Set the LCD display to 1602KHz.
 Adjust CT501 so that the frequency counter display becomes 2052kHz ±40Hz.

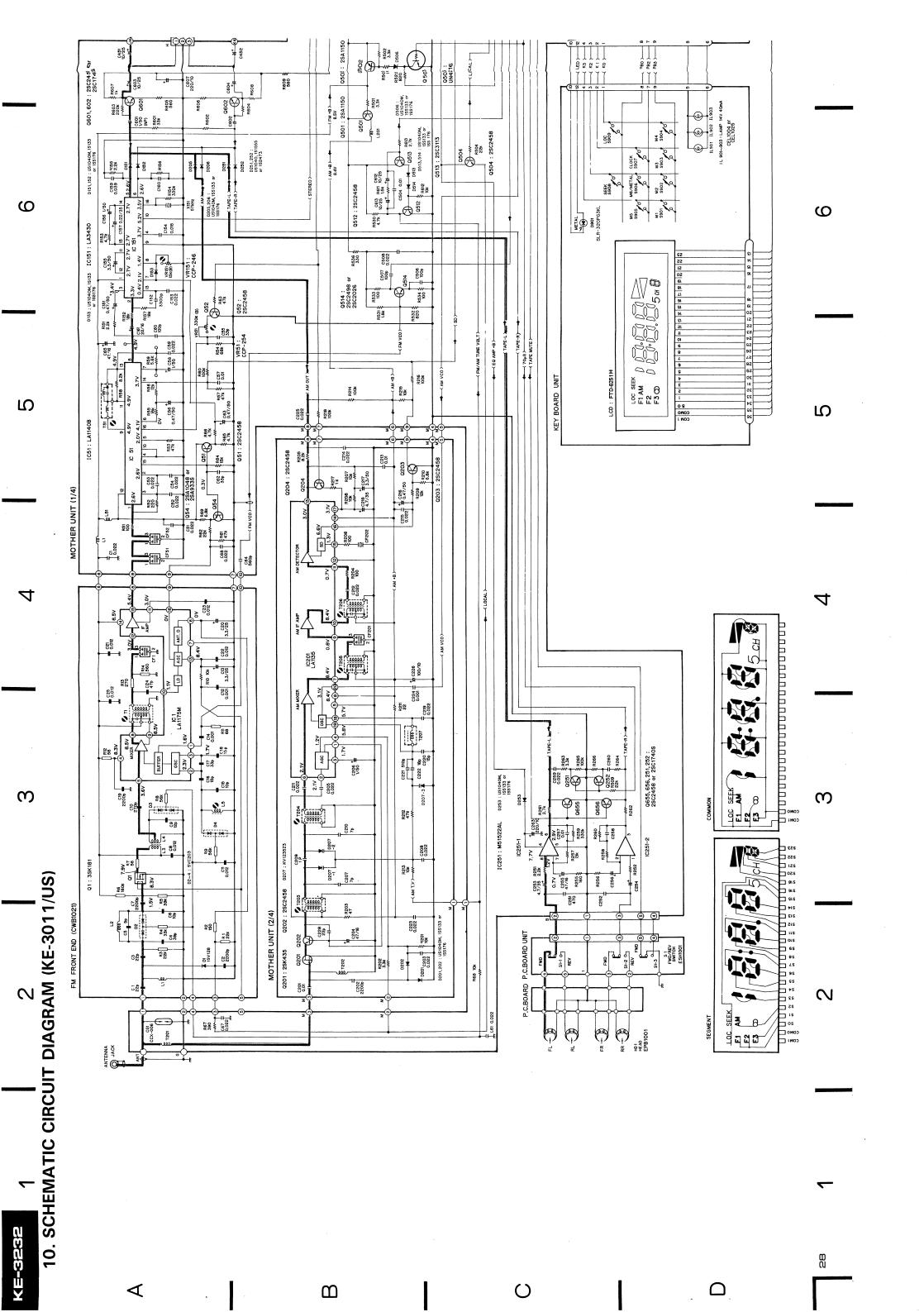


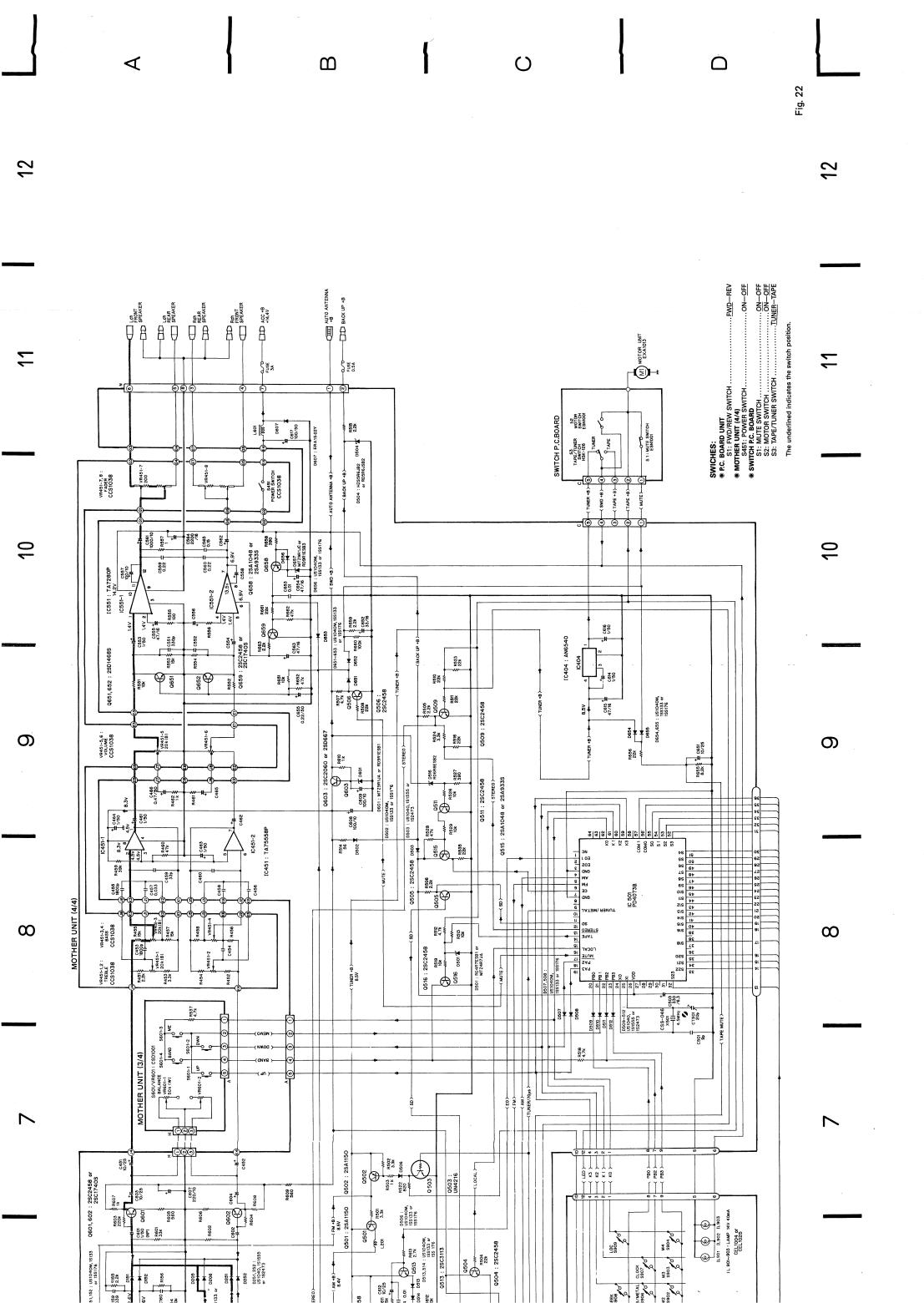


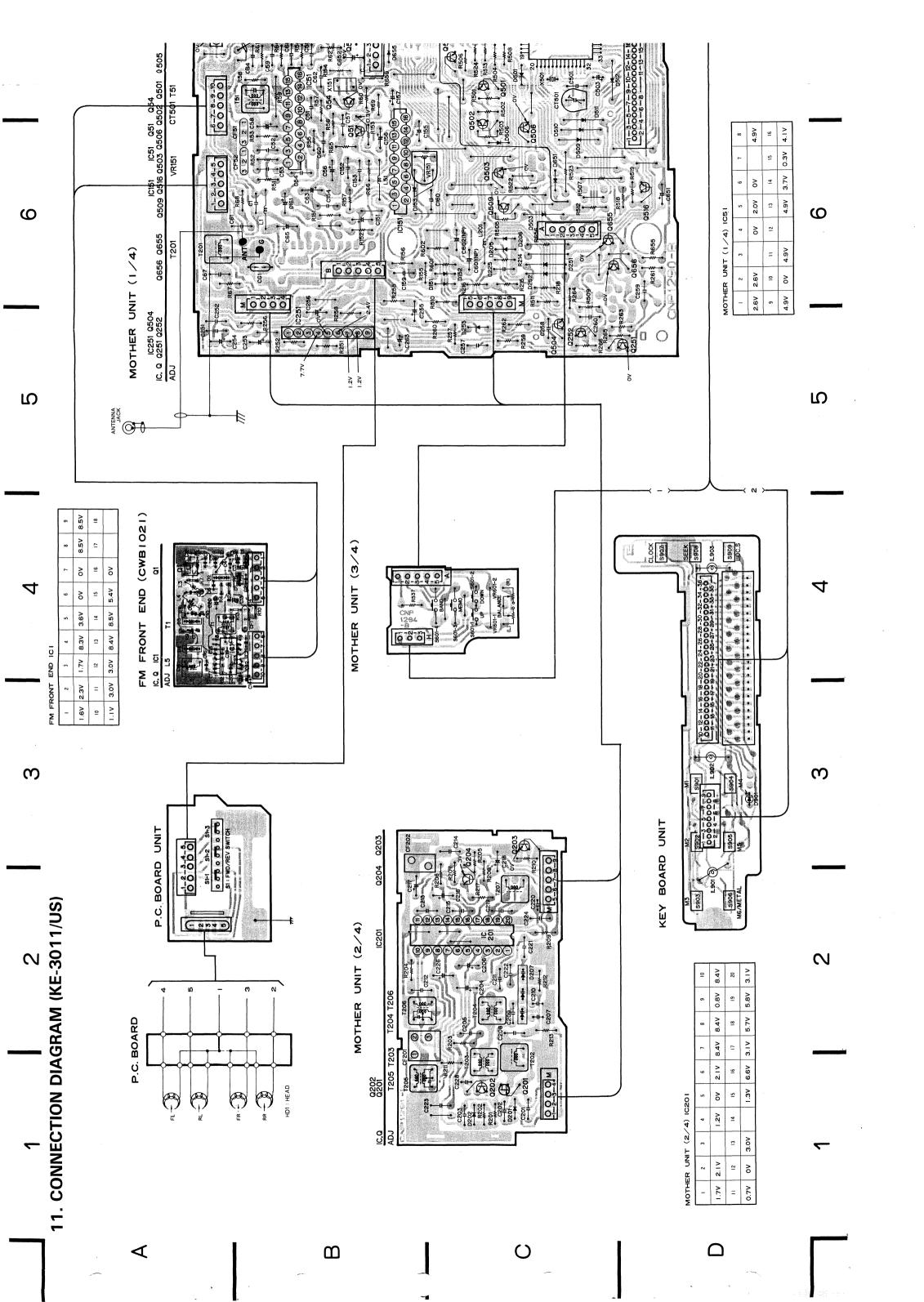


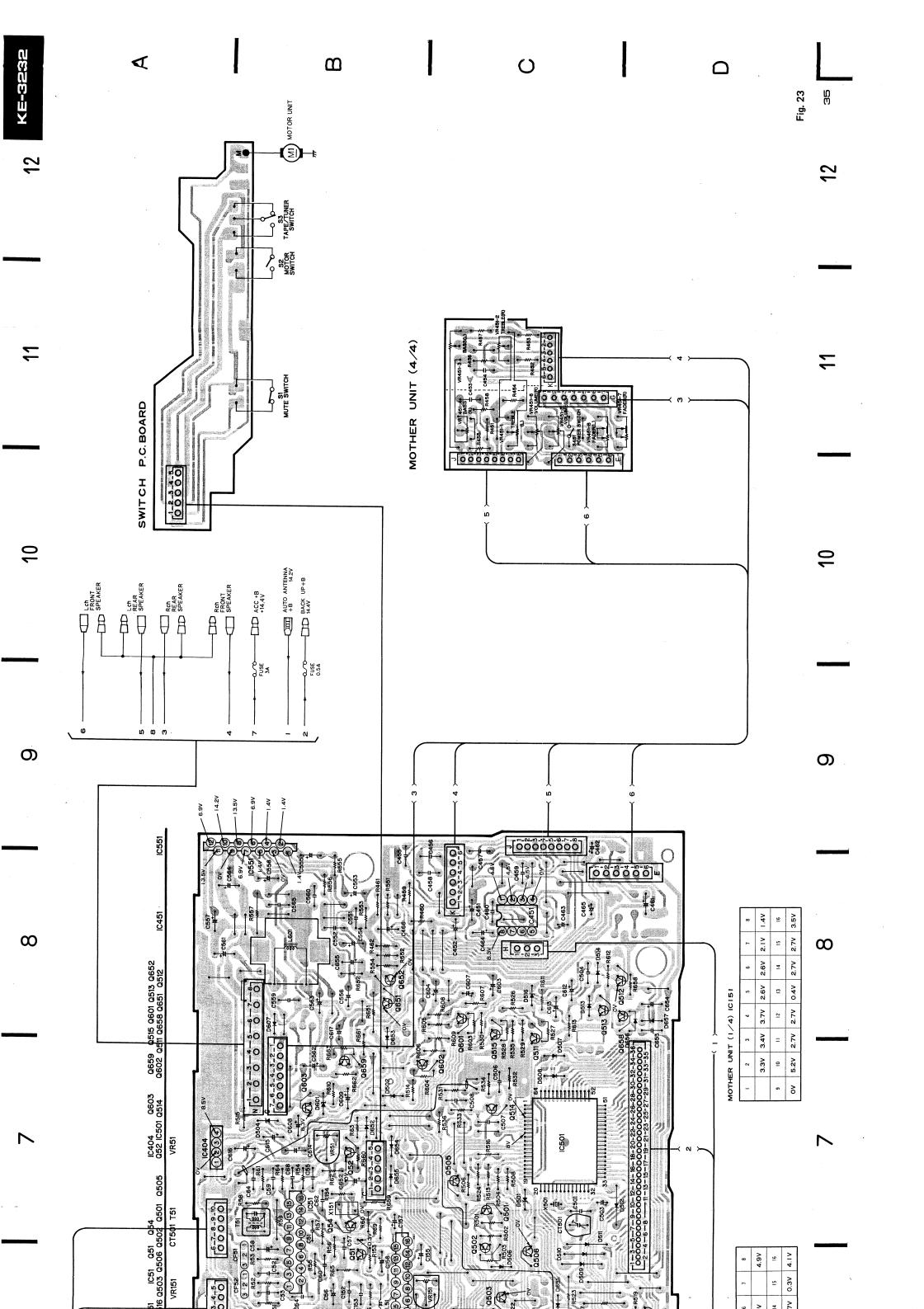


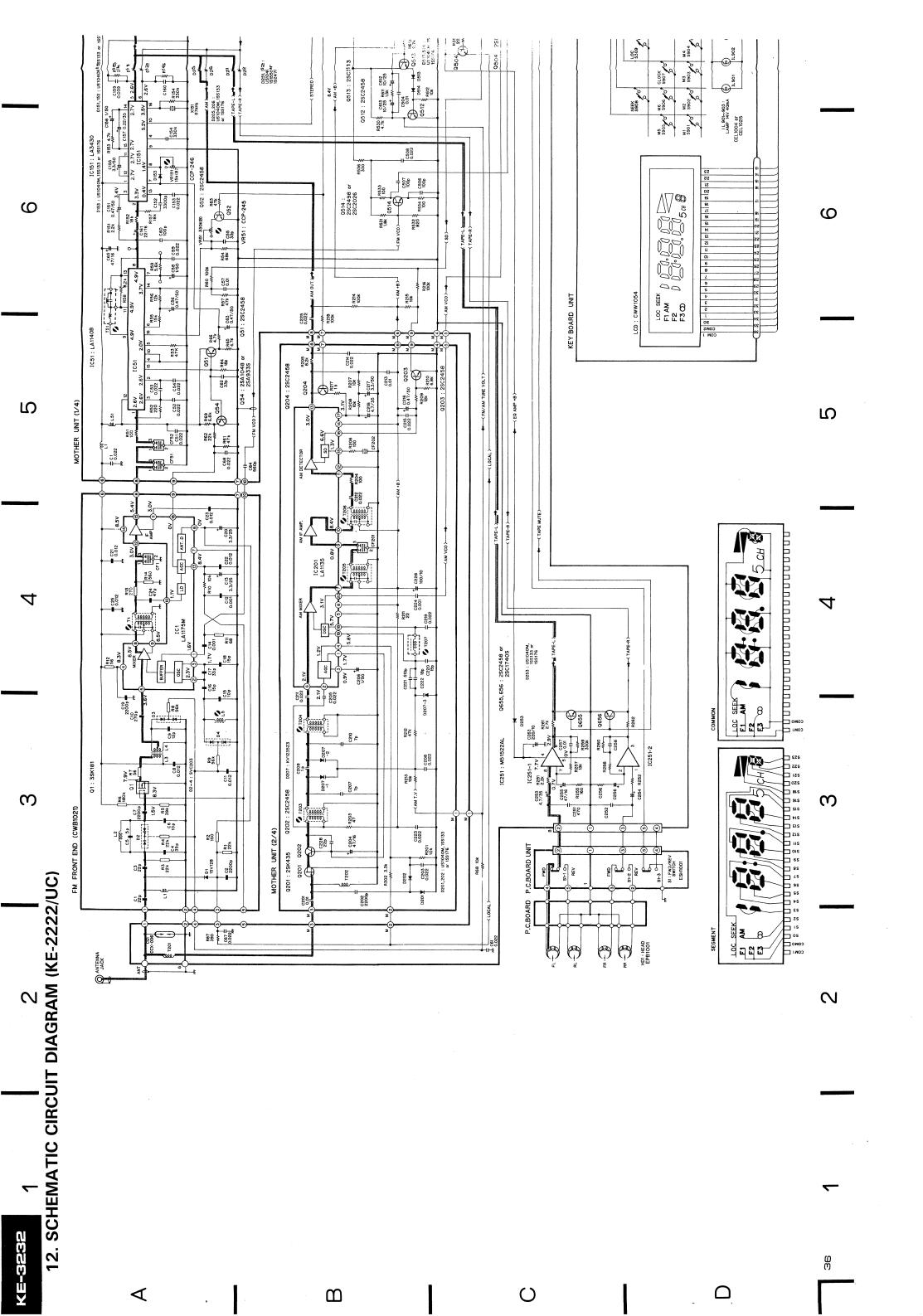


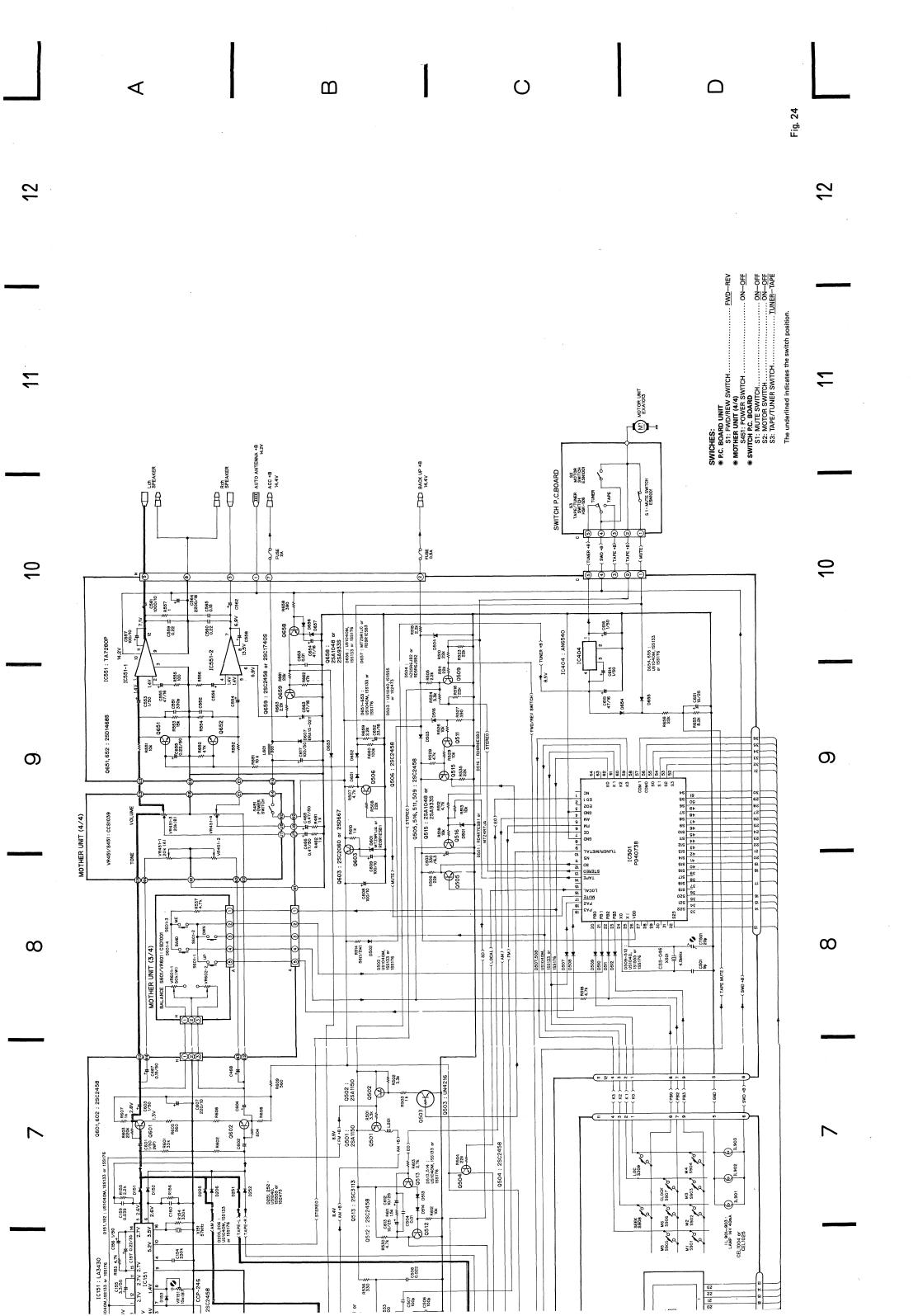


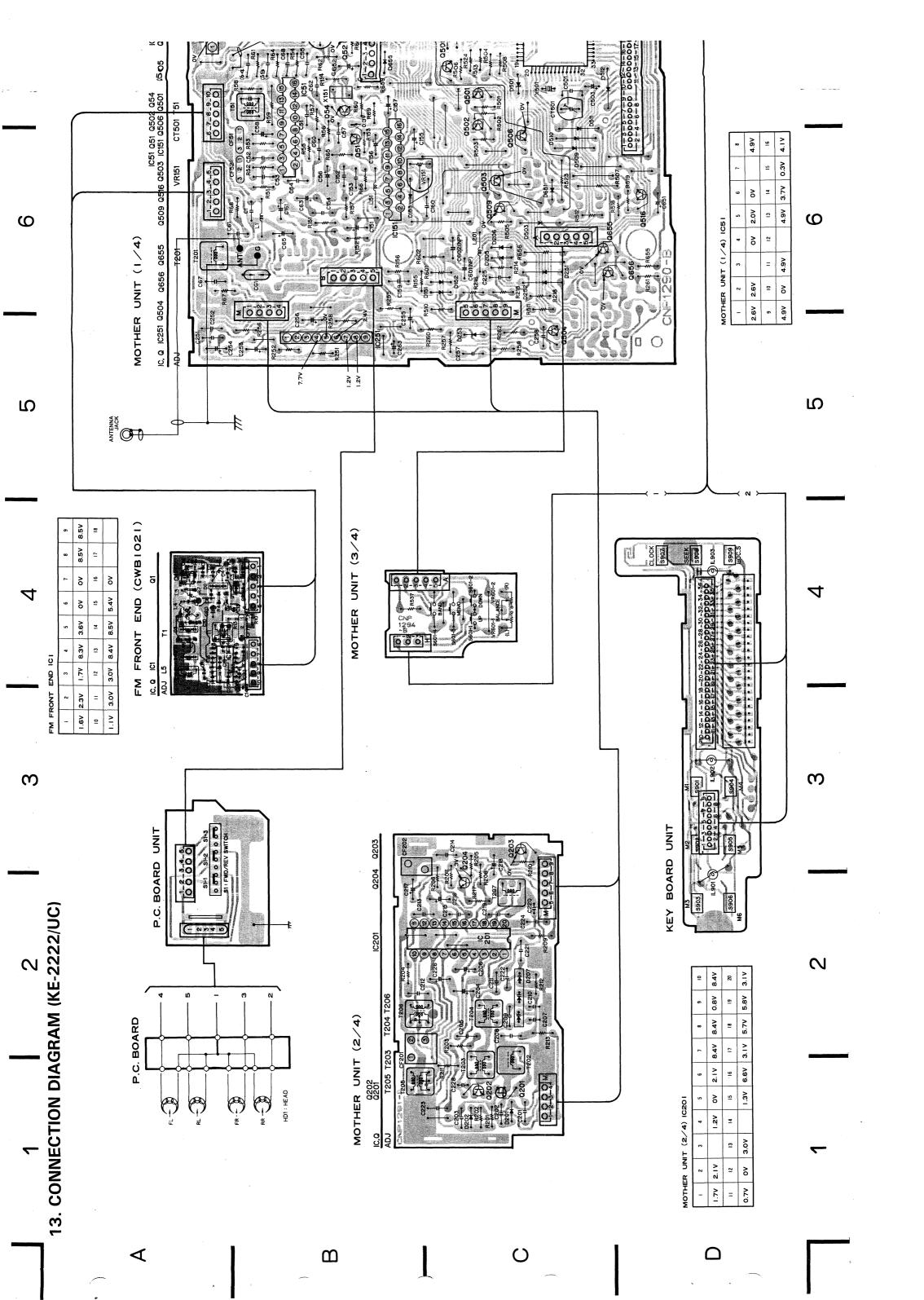


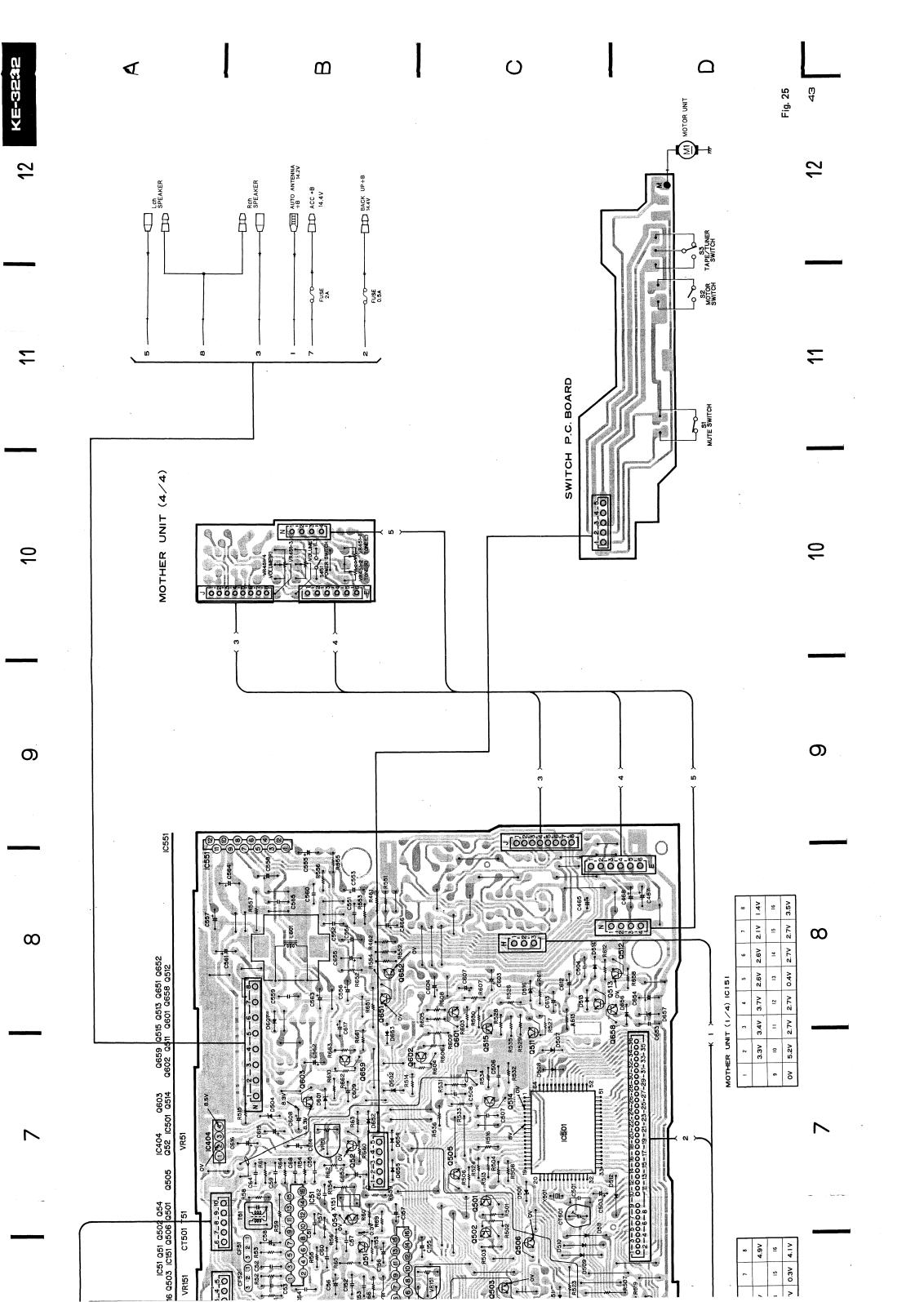


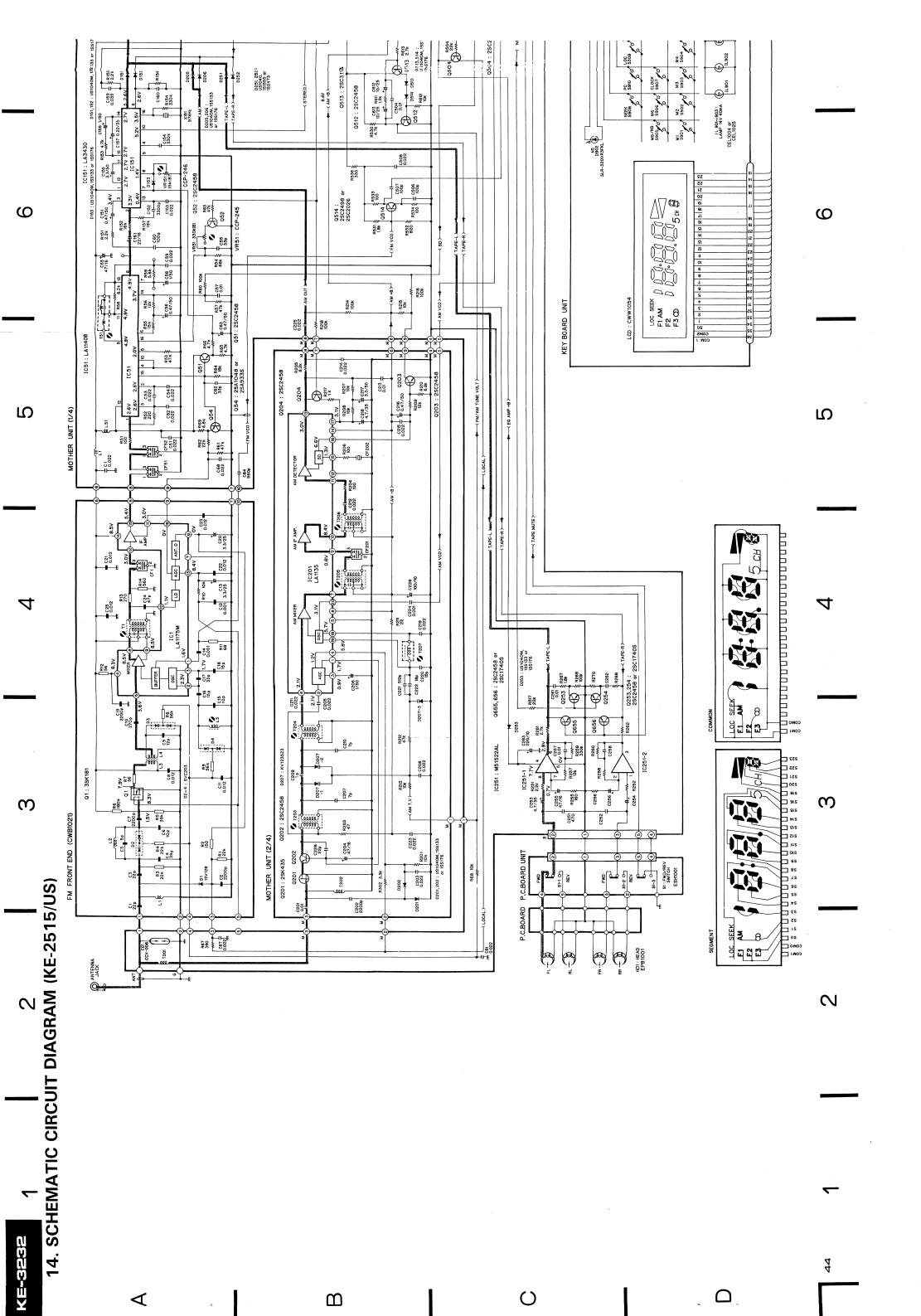


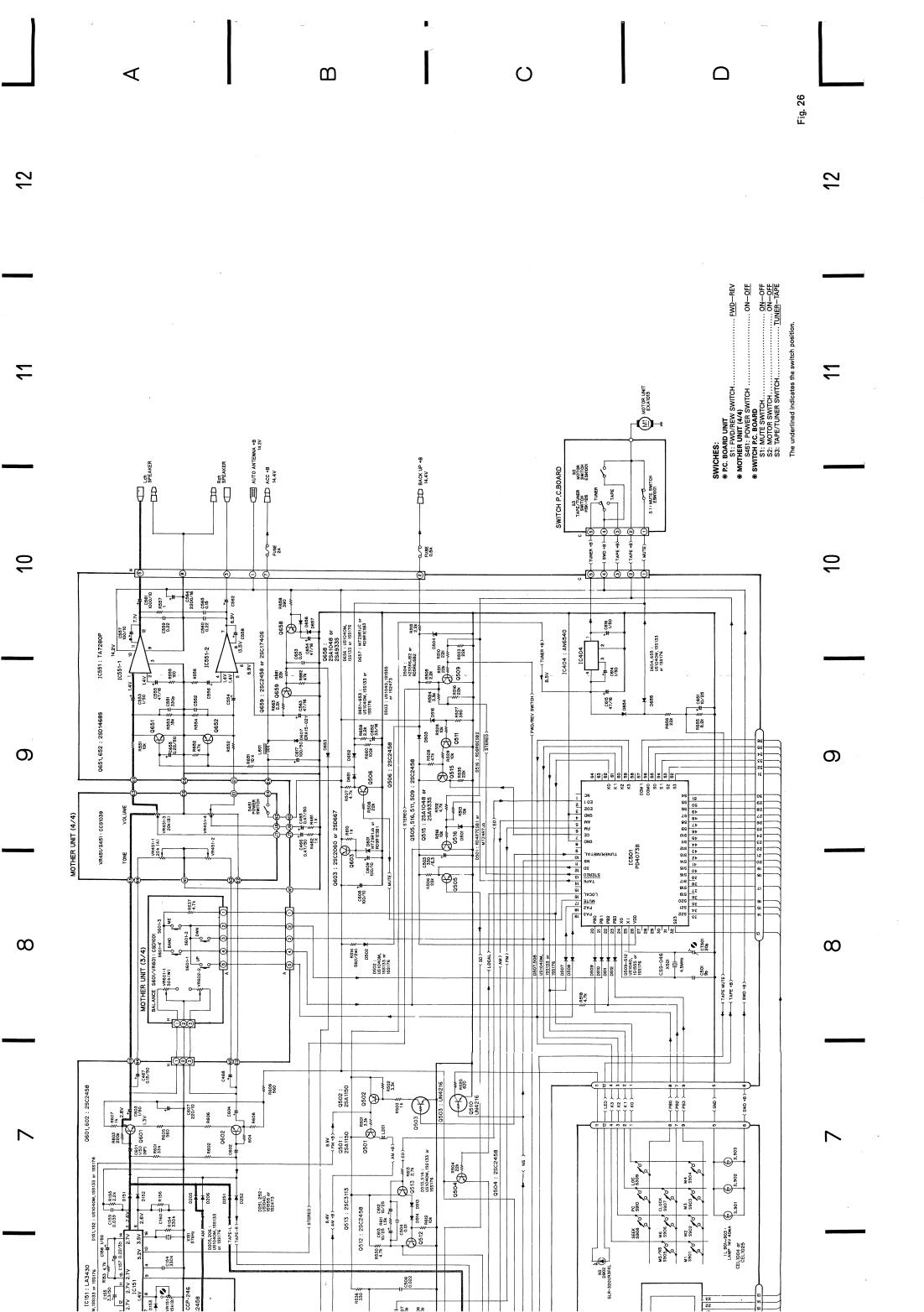


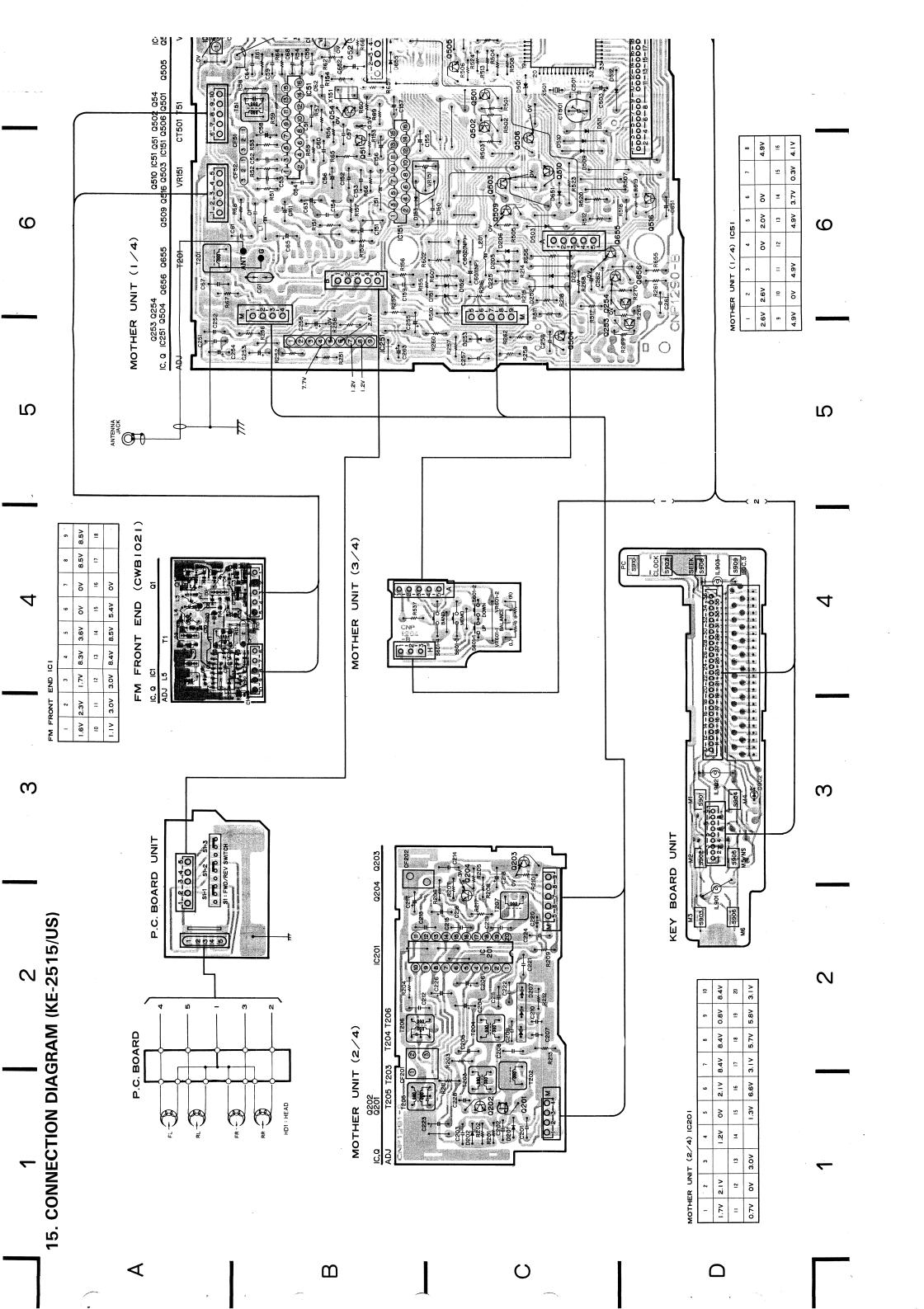


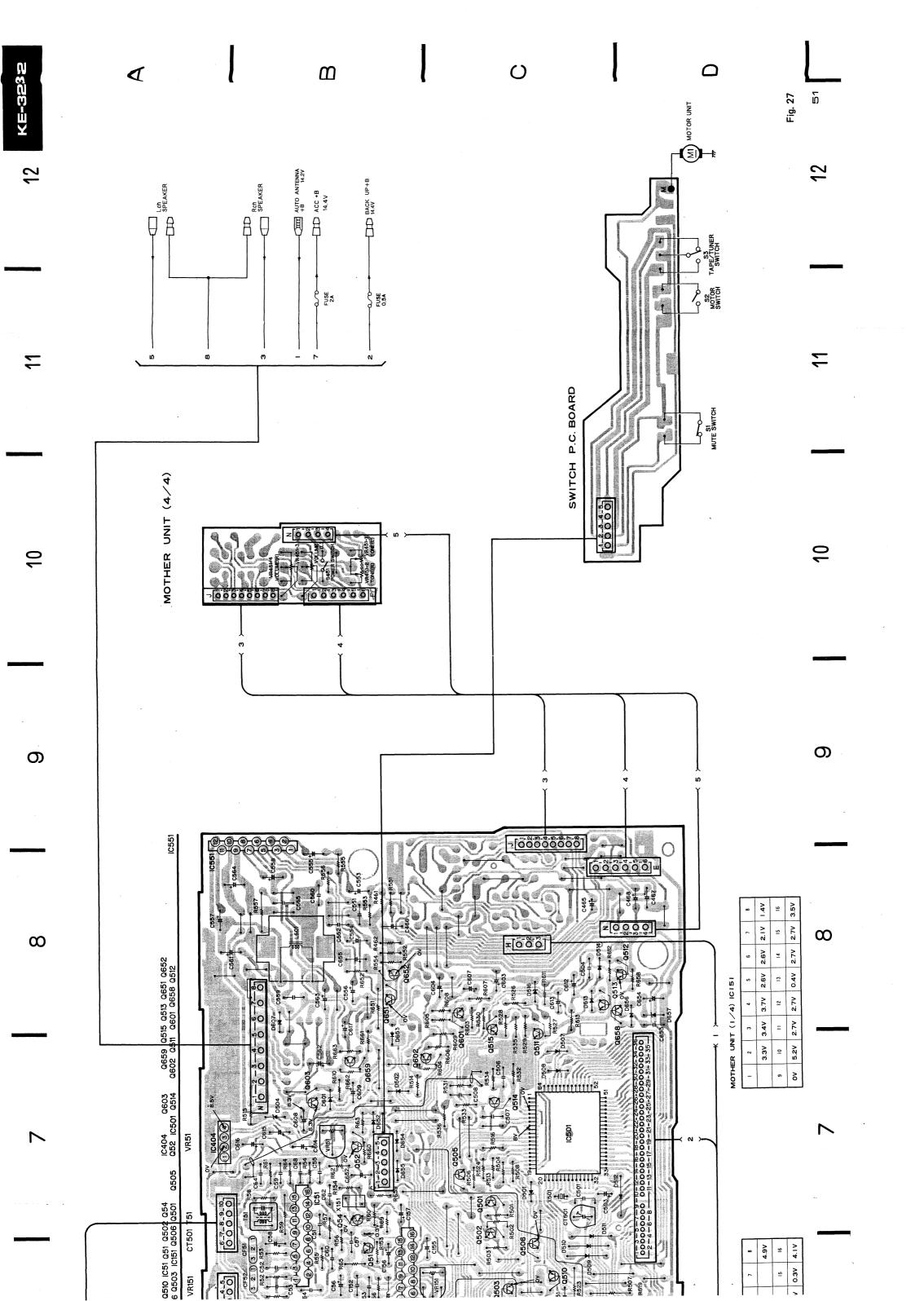


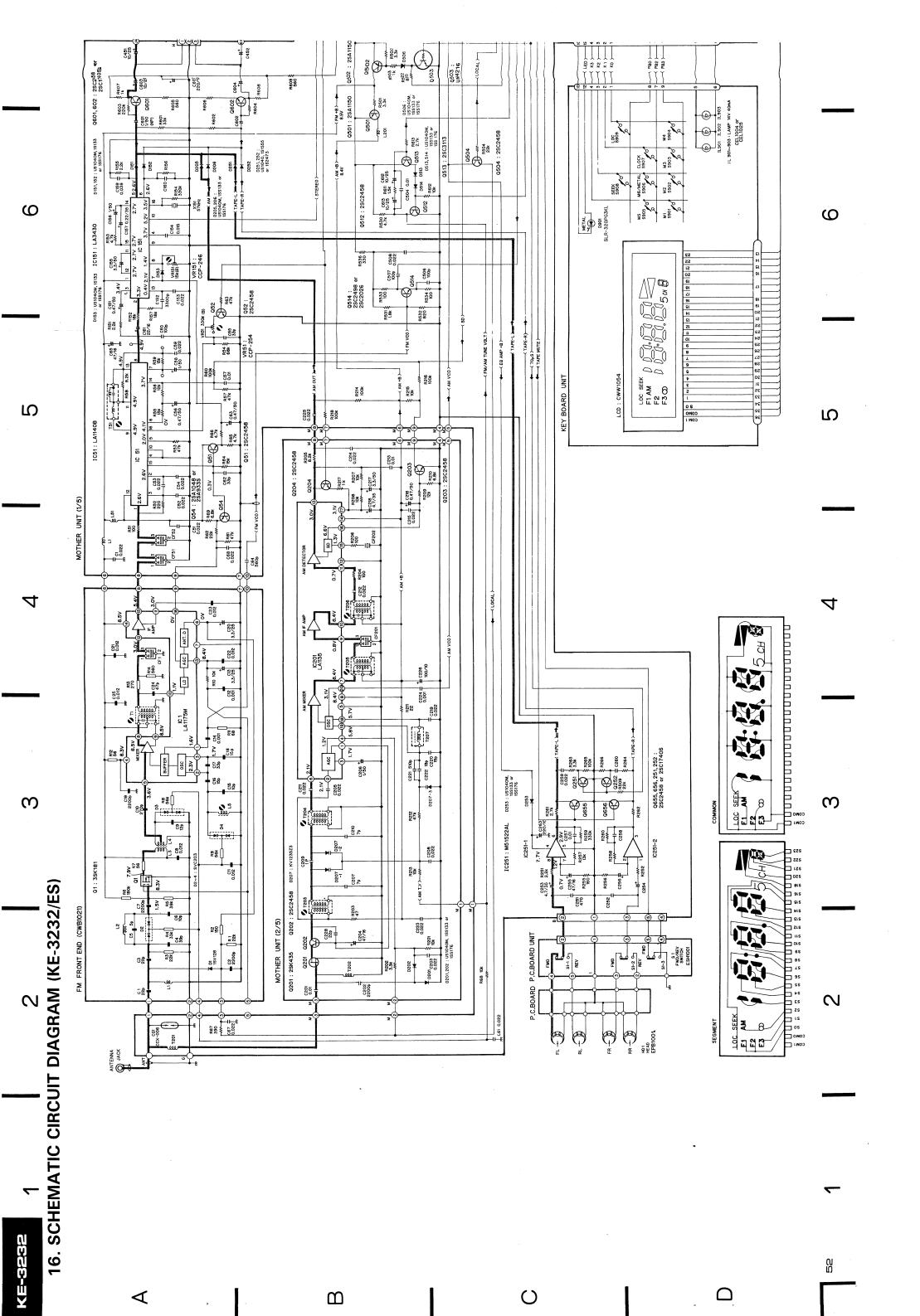


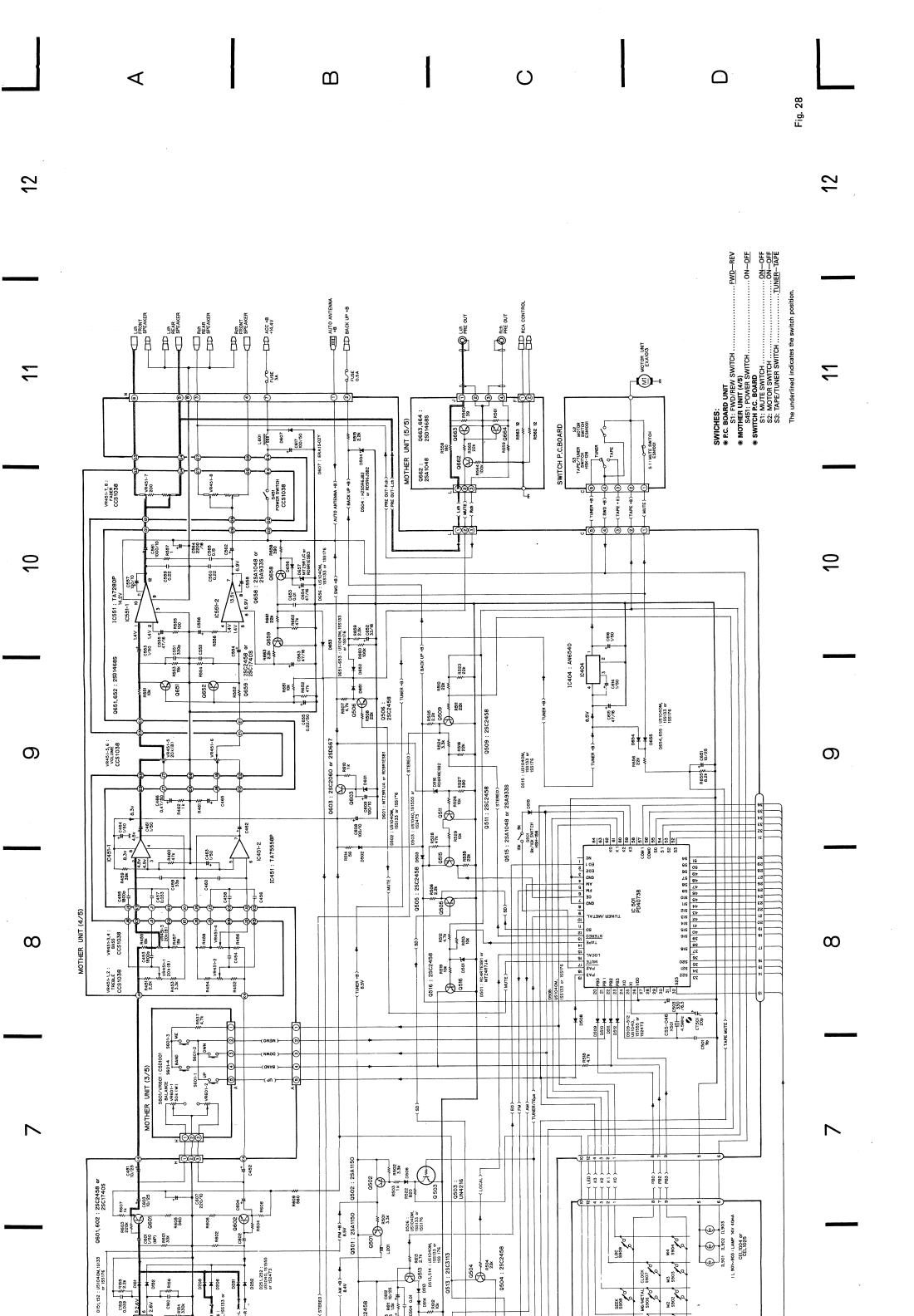


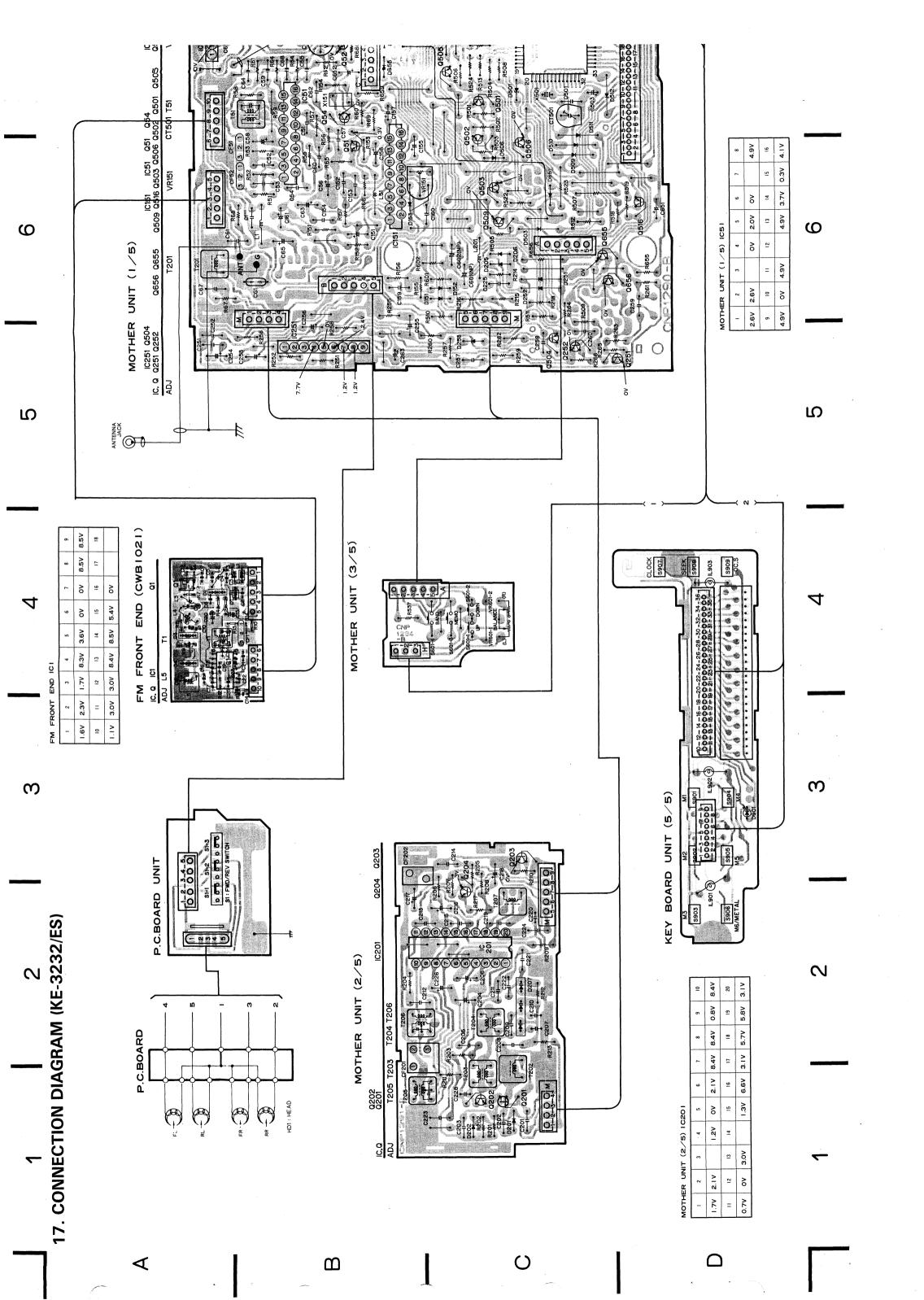


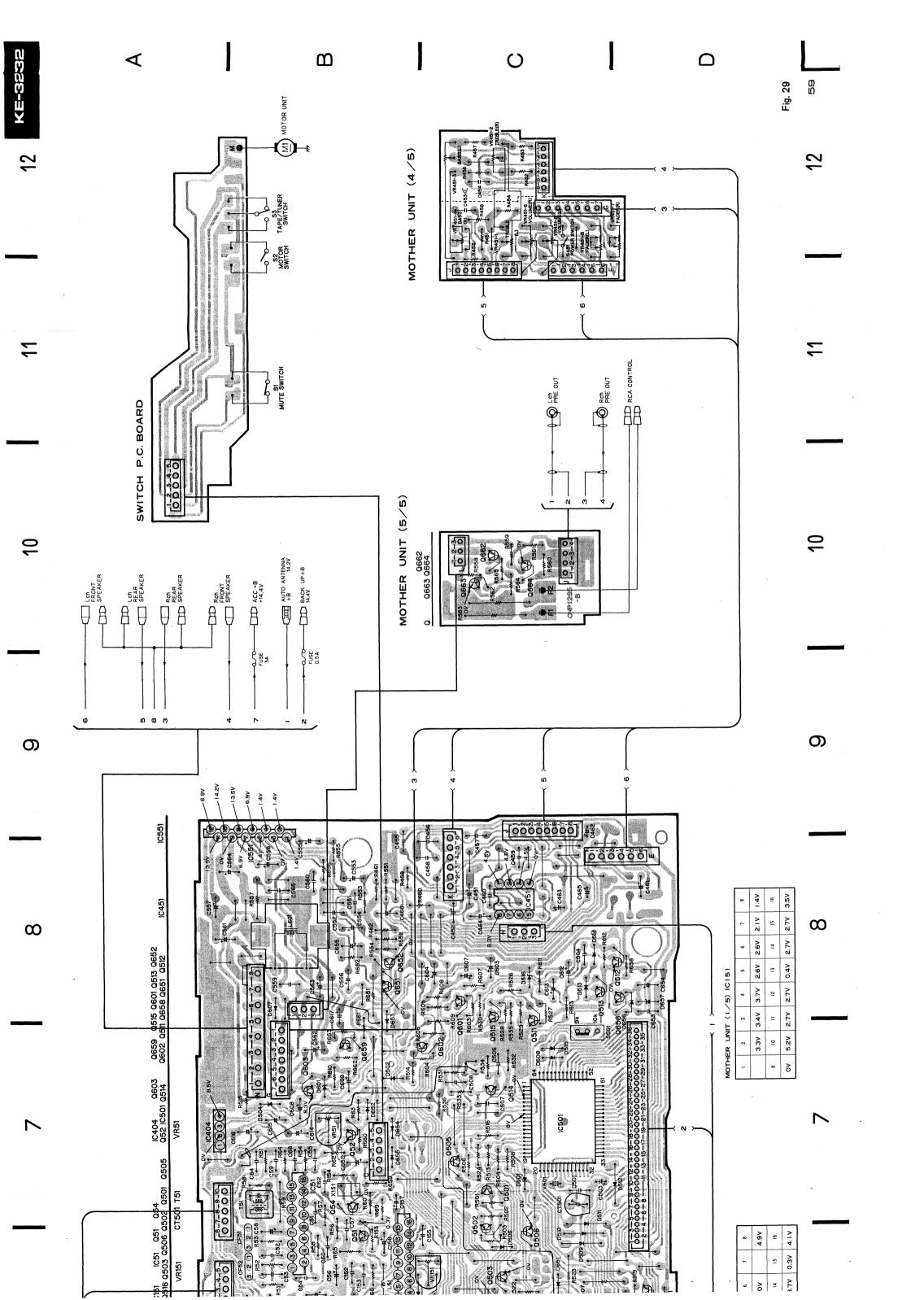


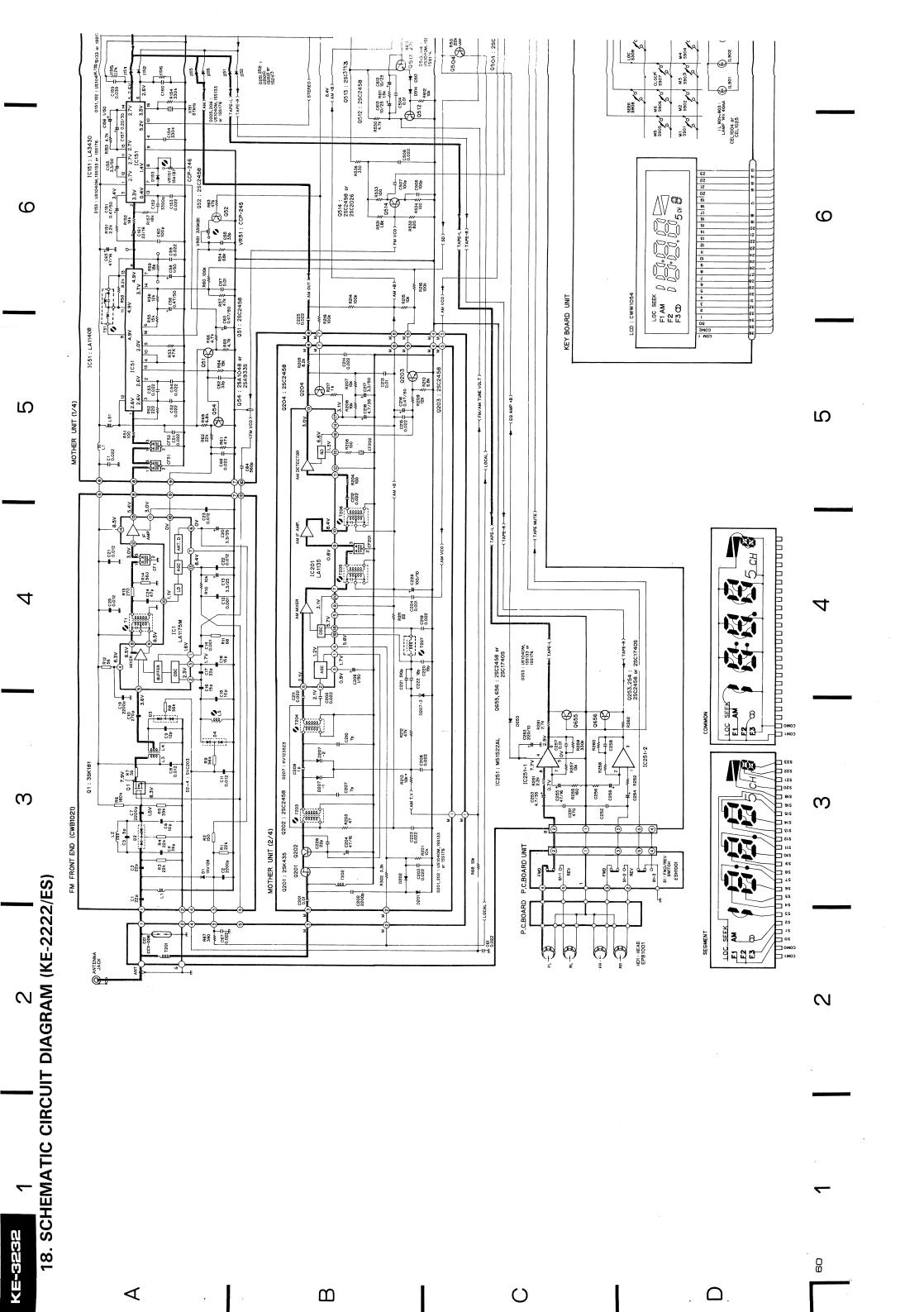


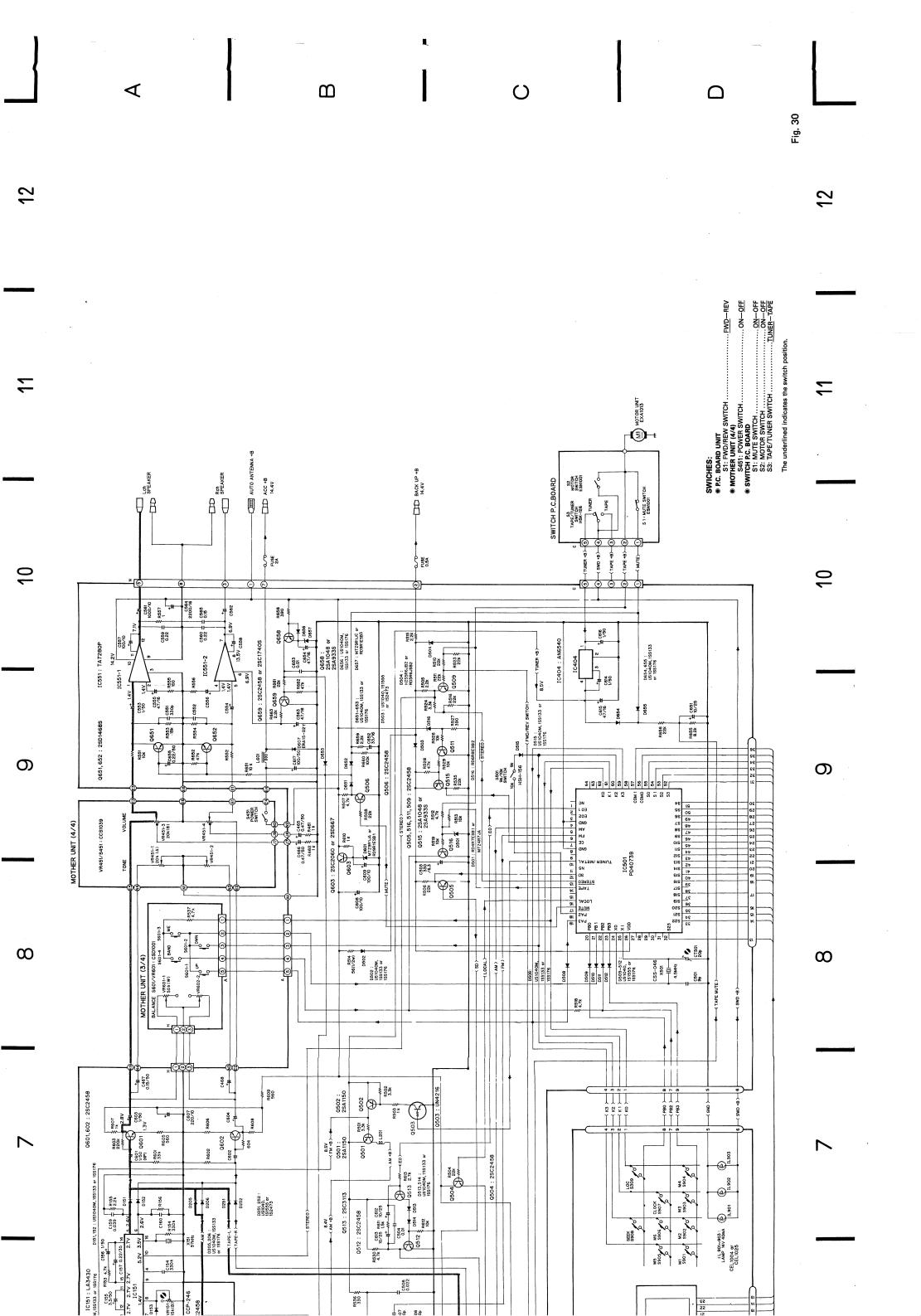


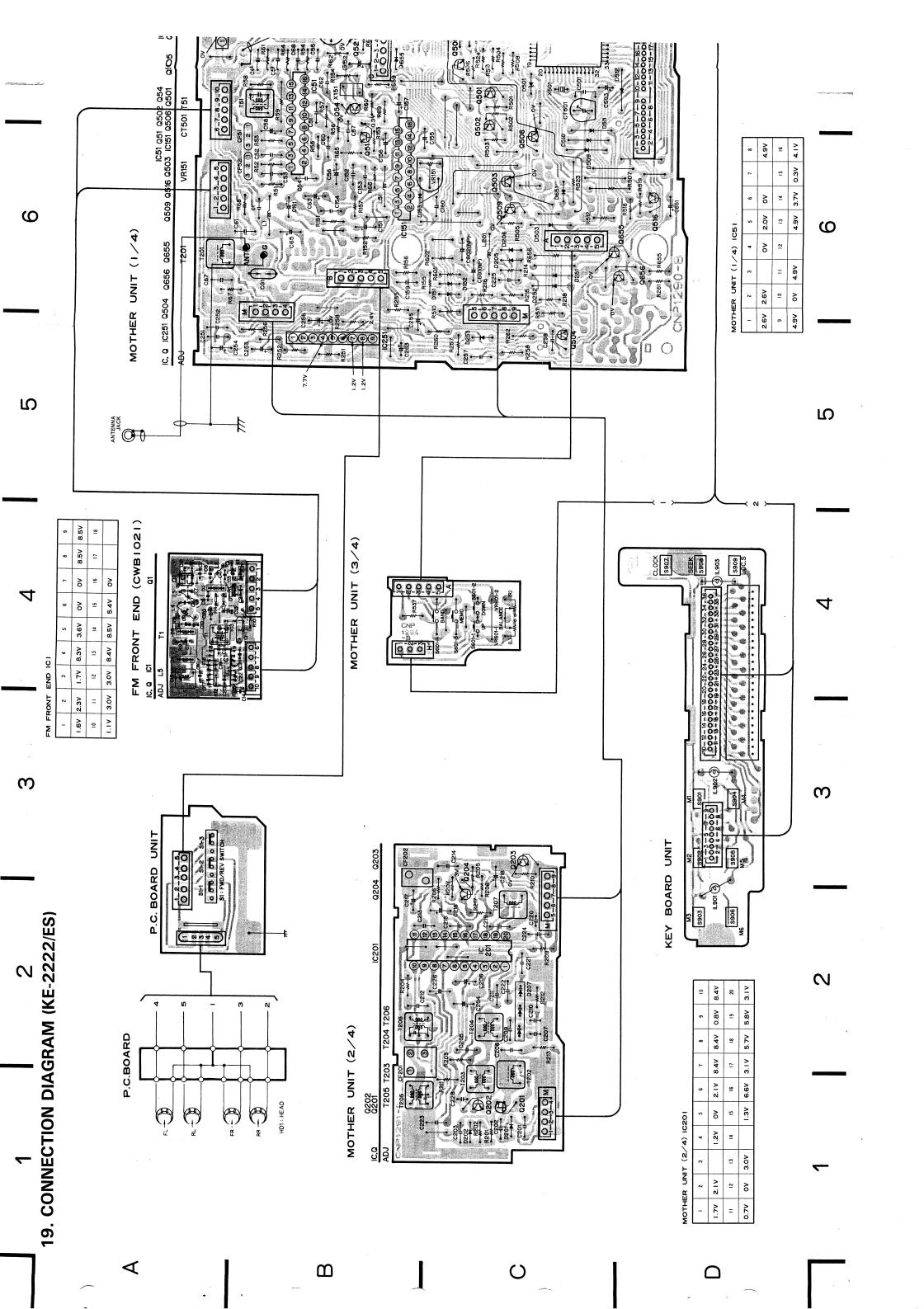


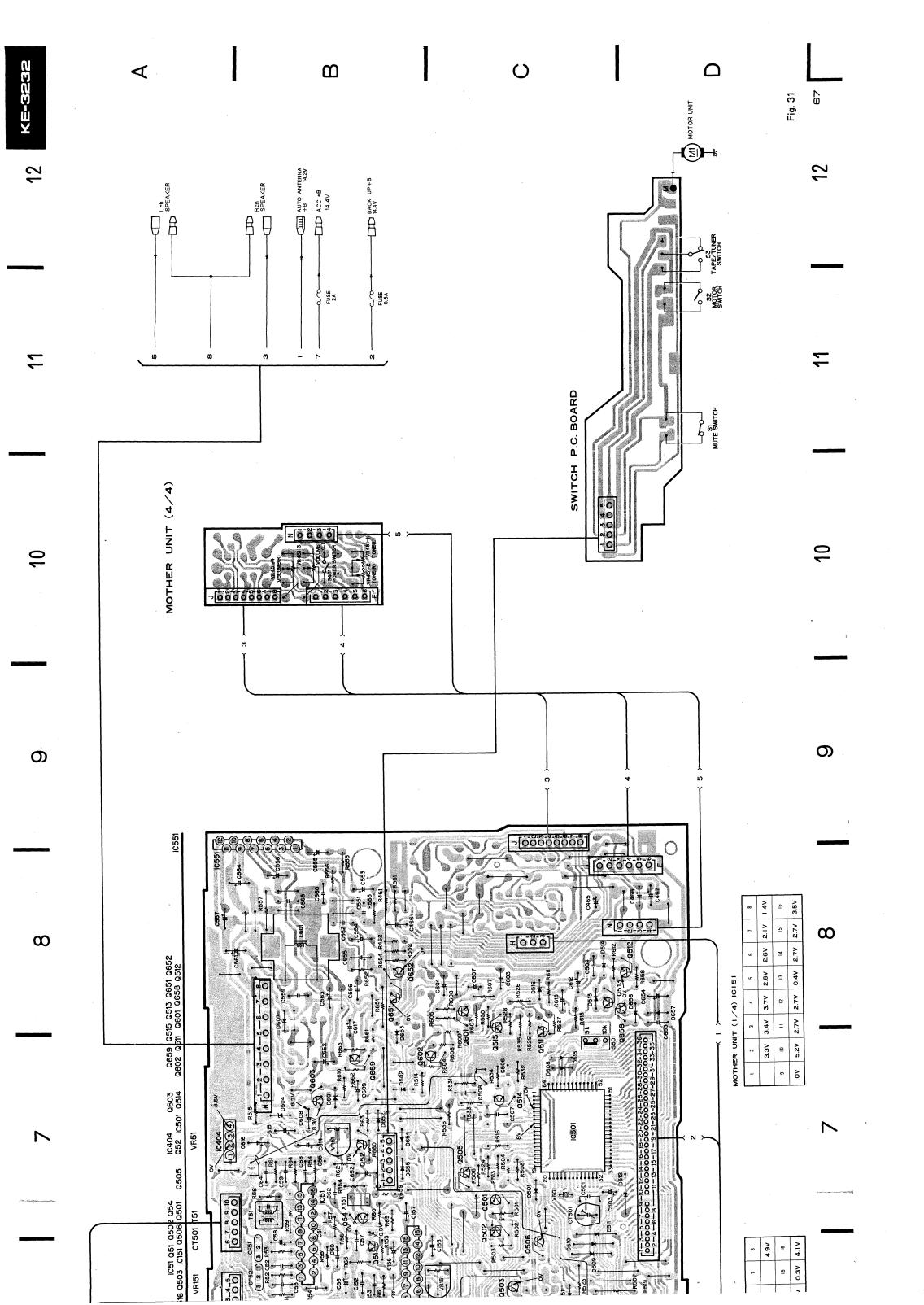


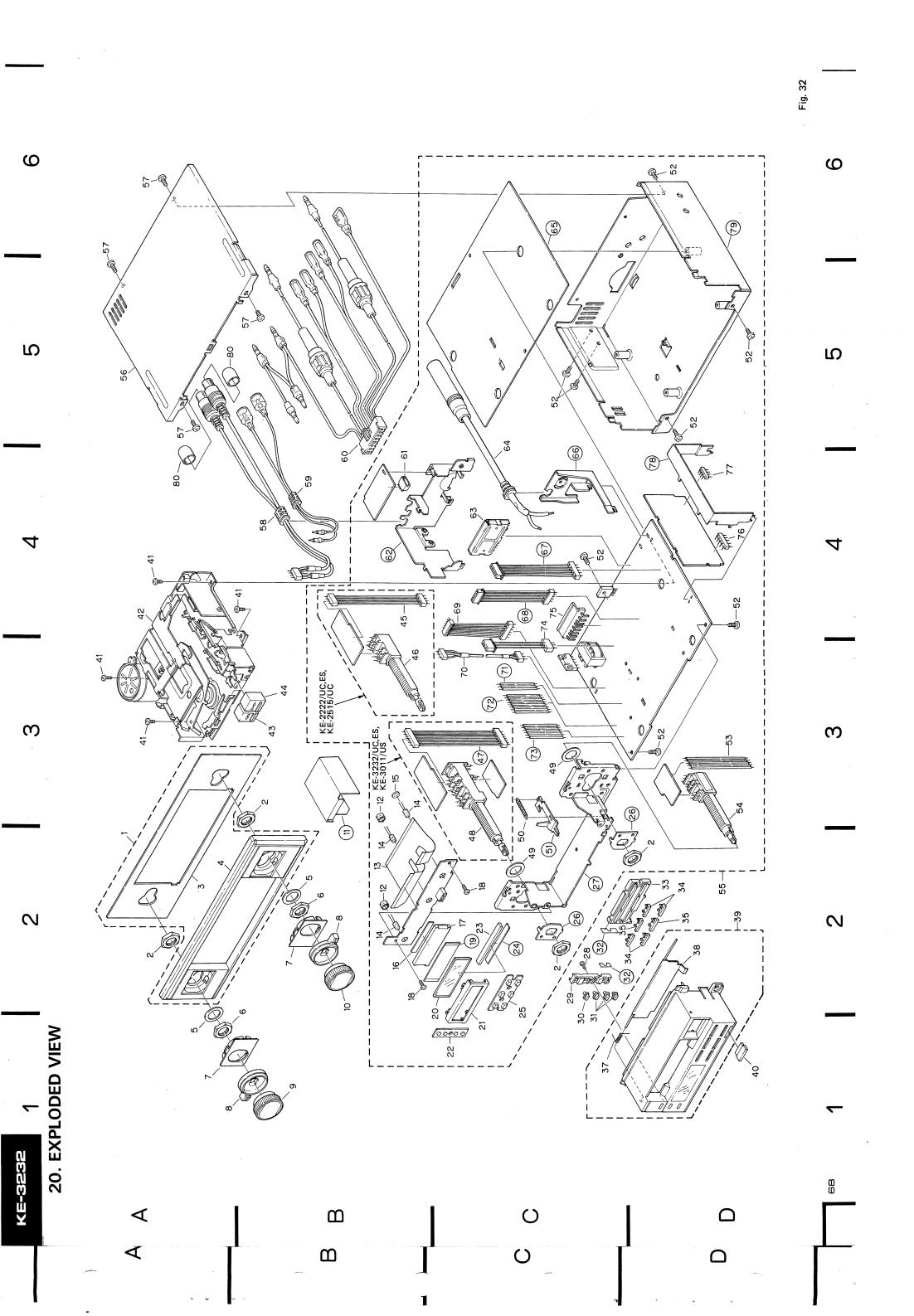












Parts List

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NOTE:
For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
★★: GENERALLY MOVES FASTER THAN ★.
This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
Parts whose parts numbers are omitted are subject to being not supplied.
Parts marked by "⑤" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

	3232/UC, ES) 2222/UC, ES) 3011/US) 2515/US)	2/UC, ES, 2, ES, 2515/US)	1/US) ism Assy 2/UC, ES,	., ES, 2515/US) 1/US) 2/UC, ES, 2. ES, 2515/US)	1/US) 2222/UC, ES,	/US) (KE-2222/UC, ES, 2515/US)	3232/UC, ES, /US) (KE-3232/UC,	ES, 3011/0S)		(KE-3232/UC) (KE-3232/ES) (KE-2222/UC) (KE-2227/UC)	/ (KE-3011/US) / (KE-2515/US)	3232/UC, ES) UC, ES)	2222/UC, ES, /US)	3232/UC, ES, /US) JC, ES)			(KE-3232/UC, ES, 3011/US)	(KE-2222/UC, ES, 2515/US)	(KE-3232/UC, ES, 3011/US)	(KE-3232/UC, ES)		JC, ES)	
Description	Grille Unit (KE-3232/UC, Grille Unit (KE-2222/UC, Grille Unit (KE-3011/US) Grille Unit (KE-2515/US)	Button (KE-3232/UC, ES, 2222/UC, ES, 2515/US)	Button (KE-3011/US) Screw Cassette Mechanism Assy Button (KE-3232/UC, ES	2222/UC, ES, 2515/US) Button (KE-3011/US) Button (KE-323Z/UC, ES, 2515/US)	Button (KE-301 Connector (KE-3	.2515/US) Volume/switch (KE-2222/UC, ES, 2515/US)	Connecotr (KE-3232/UC, ES, 3011/US) Volume/switch (KE-3232/UC,	Spacer Spring	Lever Screw Connector Volume/switch	Tuner Amp Assy (KE-3232/UC) Tuner Amp Assy (KE-2222/UC) Tuner Amp Assy (KE-2222/UC) Tuner Amp Assy (KE-2727/FS)	Tuenr Amp Assy	Case Screw Connector (KE-3232/UC, ES) Cord (KE-3232/UC, ES)	Cord Assy (KE-2 2515	Cord Assy (KE-3232/UC, E 3011/US) Plua (KE-3232/UC, ES)	Heat Sink FM Front End Antenna Cable	Insulator Holder Connector (5P)		Connector (3P)	Connector (8P)	r (3P)	Plug (8P) Plug (5P) Plug (4P)	Holder Chassis Unit Cap (KE-3232/UC,	
Part No.	CXA1583 CXA1584 CXA1585 CXA1586	CAC1278	CAC1354 BMZ26P050FMC EXK1130 CAC1277	CAC1330 CAC1276	CAC1329 CDF-637	CCS1039	CCS1038	CBE-084 CBH1084	BMZ30P060FMC CDE1409 CSD1001	CWM1246 CWM1248 CWM1249	CWM1251 CWM1252	BMZ30P040FMC CDE1126 CDE1381	CDE1345	CDE1419 CKS-469	CWB1021 CDH1054		CDE1412	CDK-206		CDE1410	CKS-465 CKS-128 CKS-127	CNW-829	
Š	39.	⋆ 40.	* 42. 43.	* 44	45.	* * 46.	47. * * 48.	49. 50.	* 53.5.5 54.			98.7.6 98.7.6	90.	61.	623. 64.	65. 67.		71.	72.	74.	75. 77.	879 80.6.9	
Mark			•						*	•													
Description	Panel Assy (KE-3232/UC, ES) Panel Assy (KE-222/UC, ES, 2515/US) Panel Assy (KE-3011/US)	Nut Plate Panel (KE-3232/LIC, ES)	Panel (KE-2222/UC; ES, 2515/US) Panel (KE-3011/US) Spacer (KE-3232/UC, ES,	2222/UC, ES, 2515/US) Spacer (KE-3011/US) Nut (KE-3222/UC, ES, 2222/	Nut (KE-3011/US) Cap (KE-3232/UC, ES, 2222/	UC, ES, 2515/US) Knob (KE-3232/UC, ES, 2222/ 11C ES)	Knob (KE-2515/US) Knob (KE-3011/US) Knob (KE-3232/UC, ES, 2222/	UC, ES, 2515/US) Knob (KE-3011/US) Knob (KE-3232/UC, ES, 2222/	UC, ES, 2515/UC) Knob (KE-3011/US) Insulator Rush (KE-32327/IIC FS, 2222)	5/∪S(S)	Lamp, 14V 40mA Bush (KE-3232/UC, ES, 2222/	UC, ES, 2515/US) Bush (KE-3011/US) Spacer	Screw Plate	LCD (KE-3011/US) LCD (KE-3232/UC, ES, 2222/ IC ES, 2515/118)	Holder Rubber Connector	Insulator Rubber Holder	Frame Unit Screw Lens	Button (KE-3011/US) Button Plate	Lens Button (KE-3232/UC, ES,	2222/US, ES, 2515/US) Button (KE-3011/US) Button (KE-3232/UC, ES,	2222/UC, ES, 2515/US) Button (KE-3011/US)	Spring Door (KE-3232/UC, ES, 2222/ UC, ES)	Door (KE-2515/US) Door (KE-3011/US)
Part No.	CXA1629 CXA1631 CXA1642	CBN-028 CNG-633 CNS1226	CNS1228 CNS1233 CND-646	CNC1528 CBN-028	CBN1001 CNK-292	CAA1054	CAA1058 CAA1083 CAA1011	CAA-603 CAA1055	CAA1056	CNV1370 CNP1296	CEL1004 or CEL1025 CNV1102	CNV1371 CNN-137 CNV-215	PMZ20P050FMC	FTZ-6251H CWW1054	CNH-136 CNV1375 CNY-214	CNV1299	PTZ14P045FZK CNV1298	CAC1281	CNV 1297 CAC1279	CAC1404 CAC1280	CAC1405 VACANT	CAT1042	CAT1043 CAT1046
Š	 -	ი; დ 4	ந் ம்	9	7.	∞ .	6	10.	7.5	<u>i</u> &	. 75	16.	<u> </u>	20.	22. 23.	255.4 26.55.4	23. 28. 29.		. 34 . 33	35.	36.	37. 38.	
Mark						*	*	*			*			*				**	*	*			
	SOMENANCES AND PURSUANCES AND	No. of the second se			neodnetro-tualism in t	kanazannika ja kiki Aras	industria incluential del con-		die deienstein der von der Telen	na popular a minimula popular p	O	and the second s				a unidersate in the set and provided sets	namen and a second consideration of the second considerati	nije postava kon na navotno na	C.)	komanacilinga er skolm alblos errodn	ere automobile en l'application de Marine l'	de Antille generalistic en alternation de

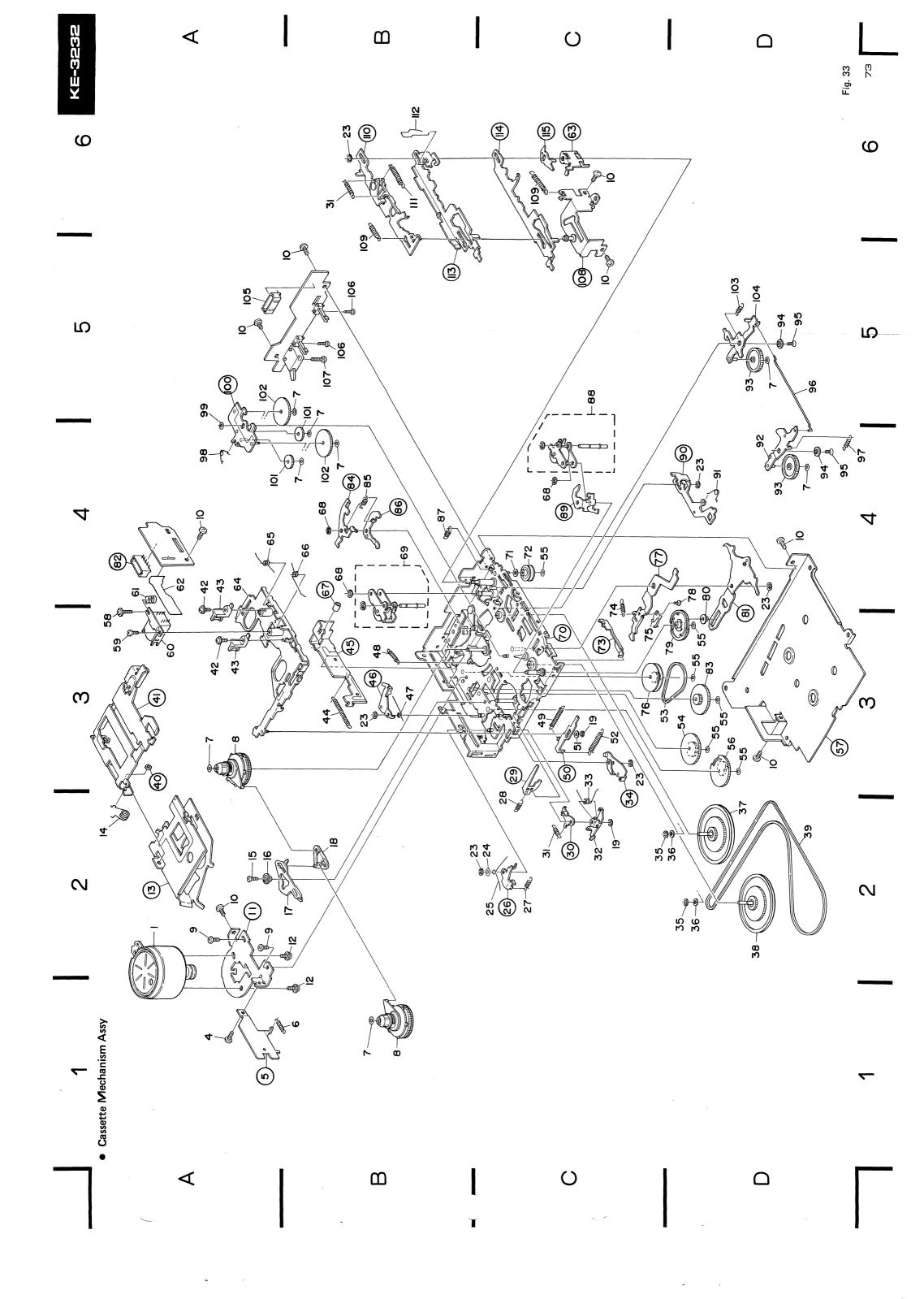
21. CASSETTE MECHANISM ASSY EXPLODED VIEW

Mark No. Part No.	* 59. 61. 62. 63.	64. EXA1004 65. EBH1004 66. EBH1003 67. YE20FUC	69. EXA1002 70. 71. EBF1004 72. ENV1009 73.	74. EBH1025 75. EBL1001 76. ENV1010 77. PBA-147	79. ENV1015 80. ELA1018 81. 82. 83. ENV1011	84. 85. EBH1024 86. 87. EBH1018 ★★ 88. EXA1003	89. 90. 91. EBH1013 92. EXA1006 93. EXA1020	94. ELA1032 95. HBA-212 96. EBH1007 97. EBH1006 98. EBH1014	99. CBF1001 100. 101. ENV1018 102. ENV1017 103. EBH1022	104. EXA1005 105. 106. EBA1006 107. BMZ20P070FUC 108.	109. EBH1016 110. 111. EBH1017 112. EBH1005 113.
Description	Motor Assy Screw Holder Spring	Washer Reel Unit Screw Screw Bracket	Screw Cassette Holder Spring Screw Collar	Arm Arm Washer Washer	Washer Spring Arm Spring Spring	Arm Arm Spring Arm Spring	Arm Unit Washer Washer Flywheel (N) Flywheel (R)	Belt Roller Cassette Frame Unit Screw Tape Guide	Spring Lever Arm Spring Spring	Spring Lever Washer Spring Belt	Gear Washer Gear Cover Screw
Part No.	EXA1013 VACANT BMZ20P025FMC EBH1011	CBF-166 EXA1012 BMZ23P030FMC BSZ23P040FMC	PMS26P025FUC EBH1019 EBA1002 ELA1019		CBH-165 EBH1035 EBH1037 EBH1039	EBH1010 EBH1008	CBG1001 HBH-179 ENV1019 ENV1020	CNT-091 PMS20P040FMC ENV1016	EBH1020 EBH1040 EBH1041	EBH1021 EBE1001 EBH1009 ENT1002	ENV1012 CBH-135 ENV1014 EBA1007
Mark No.	 *	7. 8. 9. 10. 11.	5. 5. 4. 6. 6.	17. 18. 19. 20-22. 23.	25 55 55 28 57 58 28 57 58	33 3. 1. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	4. 8. 8. 8. 8. 9. 8. 8.	* * 40. 42. 43.	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	* * 52.	54. 55. 57. 58.

Spring
Spring
Pulley
Arm
Screw
Gear
Collar
Arm
Spring
Ratchet
Spring
Ratchet
Spring
Roller Unit
Gear unit
Collar
Spring
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22. ELECTRICAL PARTS LIST

NOTE:
When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560\text{Seq.} 56 \times 10^3 561 \times 478.

0.5\text{Constant RD1/4PS \vec{a} \times 3 }
0.5\text{Constant RD1/4PS \vec{a} \times 3 }
0.5\text{Constant RN2H \vec{a} \times 1 \times 3 }
0.5\text{Constant RN2H \vec{a} \times 1 \times 3 }
0.5\text{Constant RN2H \vec{a} \times 1 \times 1

Ex. 2 When there are 3 effective digits (such as in high precision metal film resis-

MOTHER UNIT (KE-3232/UC, ES, 3011/US)

MISCE	MISCELLANEOUS				
Mark	Symbol & Description	Part No.	Mark	Symbol & Description	Part No.
*	1C51	LA1140B	*	D207	KV1235Z3
*	IC151	LA3430	*	D251, 252, 503, 509 - 512	US1040 or
*		LA1135			1S1555 or
*	1C251	M51522AL			1S2473
*	IC404	AN6540	*	D501	RD4R7ESB1 or
*	1C451	TA75558P			MTZ4R7JA
*	10501	PD4073B	∤ K	D504	HZS5R6JB2 or
* *	IC551	TA7280P			RD5R6JSB2
*	Q51, 52, 202 — 204	2SC2458	*	D507 (KE-3232/UC, 3011/US)	US1040M or
*	Q54, 515, 658	2SA1048 or			1SS176 or
		2SA933S			1SS133
*	0201	2SK435	*	D515 (KE-3232/ES)	US1040M or
*	Q251, 252	2SC2458 or			1SS176 or
		2SC1740S			18S133
*	Q501, 502	2SA1150	*	D516	RD6R8ESB2
*	0503	UN4216	*	D601	MTZ9R1JA or
* *	0504 - 506, 509, 511, 512, 516	2SC2458			RD9R1ESB1
*	Q513	2SC3113	*	D607	ERA15-02Y
* *	Q514	2SC2498 or	*	D657	MTZ9R1JC or
		2SC2026			RD9R1ESB3
*	Q601, 602, 655, 656, 659	2SC2458 or		L1 Ferri-Inductor	CTF-156
		2SC1740S		L51 Ferri-Inductor	CTF-155
*	Q603	2SC2060 or		L201 Ferri-Inductor	CTF-157
		2SD667		L601 Coil	CTF-002
*	Q651, 652	2SD1468S		T51 Coil	CTC-198
*	Q662 (KE-3232/UC, ES)	2SA1048		T201 Coil	CTB1011
*	Q663, 664 (KE-3232/UC, ES)	2SD1468S		T202 Coil	CTB1012
*	D151 — 153, 201, 202, 205, 206,	US1040M or		204	CTB1013
	253, 502, 506, 506, 513, 514, 651 — 656	1551 76 of 155133		T205 Coil T206 Coil	CTE1011 CTE1012

Coil Tributed Coil Tributed Coil Tributed Corrected	TTO7	Mark	Symbol &	Symbol & Description	Part No.	CAPACITORS	ITORS	
## VRIST Semi-lived 18th 18th 18th 18th 18th 18th 18th 18th	## Swolly Box (1977) ## Swolly Resistance 1777-1872 1777-187		T207	Coil	CTB1014	Mark	Symbol & Description	Part No.
+ × VH511 Sami-fract 330kd (8) CCP-204 CS6, 63 1, 12.0 + × VH511 Sami-fract 330kd (8) CCP-224 CS6, 63 1, 15.12 16 + × VH511 Sami-fract 330kd (8) CCP-246 CS7, 201, 213 + × VH511 Sami-fract 150, (8) CCC-300 CG1 CG1 COUNTINEER BASS, FADERY CCC-300 CG1 X501 Arrian Resonator, 57kH CSS1019 CCC-300 CG15 AKBOLYNOSINE SASS CARRES CCC-300 CG15 CG15 ARALANCE) ARALANCE) CCC-300 CG15 ARALANCE) ARALANCE CCC-300 CG15 ARALANCE) ARALANCE CCC-300 CG15 ARALANCE) ARALANC	## VR51 Sami-freed, 196.00 CGP-244 CGS, 68, 16, 17 CGS, 68, 16, 17 CGS, 18, 18, 18 CGP-244 CGS, 18, 18, 18 CGS, 18, 18, 18, 18, 18, 18, 18, 18, 18, 18		CF51, 52	Ceramic Filter	CTF-182		C1, 51 — 54, 59, 67, 68, 153, 203	CGCYX223K25
** VR51 Semi-lined, 18.00 CP-264 CSC 66.85, 151, 216 ** VR51 Semi-lined, 18.00 CP-264 CSC 7.201, 218 ** VR151 Semi-lined, 18.00 CCP-264 CSC 66.85, 151, 216 ** VR451 Semi-lined, 18.00 CCC 7.201 CSC 7.201, 213 ** VR451 Semi-lined, 18.00 CSC 7.201, 213 ** CG1 CT501 Trimmer, 20P CCC-5070 CG3 ** SG01 Semi-lined, 19.00 SELECTOR) HSH-156 CG5 7.204 ** SG01 Semi-lined, 19.00 SELECTOR) HSH-156 CG5 7.201 ** SG01 SELECTOR HSH-150 CG5 7.201 ** SG01	** VR51 Semi-theory 15t.0 (19.244) 656.85 151.216 ** VR51 Semi-theory 15t.0 (19. CP-264 65.0 151.216 ** VR51 Semi-theory 15t.0 (19. CP-264 65.0 151.216 ** VR41513431 Volume/Switch CS51038 65.0 (20. CS 10. CS 1		CF201	Filter	CTF-240		C55, 62	CCCSL330J50
** VH5I1 Semi-fixed, 130x1 (8) COP-254 GS7, 201, 213 ** VH5II Semi-fixed, 130x1 (8) COP-246 GS8, 156, 616 ** VH5I/5451 Fourmal Semi-fixed, 15x1 (8) COP-246 GS8, 156, 616 ** VH5I/5451 Fourmal Semi-fixed, 15x1 (8) CCC-200 GS8, 204 CG1 CCC-200 CG51 X151 Trimener, 20P CCC-200 GS8, 204 X151 Trimener, 20P CCC-200 GS8, 20P X151 Trimener, 20P X151 Trimener, 20P X151 Trimener, 20P X151 Trimener, 20P X152 Trimener,	** VHSI Samifract 330xid 18) C0P-234 CS7 201, 213 ** VHSI Samifract 330xid 18) C0P-234 CS7 201, 213 ** VHSI Samifract 18x0.8 (B) CCP-246 CS7 008 ** VHSI Samifract 18x0.8 (B) CCC-246 CS7 008 ** TITREBLE, BASS, FADER/ CG1 CCG1 CCC-070 CG1 X151 CATAMIR SAMPLE CSC-070 CG5 CG5 CG4 CG4 CG5 CG4 CG4 CG5 CG4 CG4 CG5 CG4 CG6 CG4 CG4 CG6 CG6 CG4 CG4 CG4 CG6		CF 202	Ceramic Resonator	CTF-247		C56, 63, 151, 216	CEAR47M50LS2
** VR151 Semi-fixed 19t.0 (B) CCP-246 G8, 196, 616 ** VR451/5451 Volume/Switch CC51038 G8 ** Trimmer, 20P CC64070 G15 ** S01 Switch Recentor, 57Atz CS51019 CG1 ** S01 Volume/Switch CC51038 G8 CG4 CG21 ** S01 Volume/Switch Recentor, 57Atz CS51019 ** S01 Switch Relative Recentor, 57Atz CS51019 ** S01 Switch Relative CSS CG4070 C155 ** S01 Switch Relative CSS1019 ** S01	** VR151 Semi-liked, 19t.0 (B) CCP-246 C8, 166, 616 ** VR451/5451 Volume. Switch CCS 1028 C80	**	VR51	Semi-fixed, 330kΩ (B)	CCP-254		057 201 212	1000X
** VH151 Semi-froad, 15a.1 (8) CCP-246 ** VH451S451 Volume/South (CC51038) CG1 (TREBLE BASS, FADER) CG370 CG1 CT501 Trimmer, 20P CG370 CG152 ** S501 Switch (BA/10x SELECTOR) Wark Storing (Baser) FESISTORS(KE-3222/UC, ES) FESISTORS(KE-3222/UC, ES) BALANCE BALANCE Ani - Sis, 50.5 Switch (BA/10x SELECTOR) Ani - Sis, 50.5 Switch (BA/10x SELECTOR) BALANCE BALANCE Ani - Sis, 60.6 Switch (BA/10x SELECTOR) Ani - Sis, 25.2 Switch (BA/10x SELECTOR) BALANCE BALANCE BALANCE Ani - Sis, 50.5 Switch (BA/10x SELECTOR) Ani - Sis, 50.5 Switch (BA/10x SELECTOR) BALANCE BALANCE Ani - Sis, 50.5 Switch (BA/10x SELECTOR) Ani - Sis, 50.5 Switch (BA/10x SELECTOR) BALANCE BALANCE Ani - Sis, 50.5 Switch (BA/10x SELECTOR) BALANCE BALANCE BALANCE Ani - Sis, 50.5 Switch (BA/10x SELECTOR) CG20 CG20 BBS: 50.5 Switch (BA/10x SELECTOR) CG20 CG20 BBS: 50.5 Switch (BA/10x SELECTOR) CG20 CG2	** VR461/Stay Invalidate 18cm; Inter 18cm;						037, 201, 213	00.001000000000000000000000000000000000
** VH451/5615 Volume/Solitein CCS1038 080 (TREBELE, BASS, FADER) CG1 (TREBLE, BASS, FADER) CG1 (TREMELE, BASS, FADER) CG3 (TREMELE, BASS, FADER) CG4 (CC300 CG5 (C152 CG5 CG5 (C152 CG5 CG5 (C154 ** S601 Vinimer, 20P CG407 (C154 CG5 CG5 CG5 CG5 (C155 CG5 CG5 CG5 CG5 CG5 CG5 CG5	** VH451/551 Volume/Solitein CCS1038 080 (TRESIS VOLUME/Solitein CCS1038 086 ** S01	* *		Semi-fixed, 15kΩ (B)	CCP-246		C58, 156, 616	CEAU10M50LS2
CCC	CC1 CXX CO3 CC3 CC4 CC5	+		151 Volume/Switch	CC51038			
CCC.006 CG6	CCC.006 CGB	•					090	CKPYB101K50L
CG51 CG52 CG52 CG52 CG52 CG52 CG52 CG52 CG52 CG53 X151 CG75 (KE2322ES) (KE2322ES) (KE3232ES) (KE3232ES) (KE3232CS) SG1 Switch (9k/10k SELECTOR) HSH-156 CG55 CG55 CG75 CG75 CG75 CG75 CG75 CG75 CG76 CG76 CG77 CG70 CG7	CGS 1 Trimmer, 20P CCG-070 CGS-204 CT501 Trimmer, 20P CCG-070 CGS-070 X151 Ceromic Reponstor, 574th CGS1019 C154 * X501 X114, 544th CGS1019 C154 CSS-046 C155 (KE-2222[5]) * * \$501 Switch (9k/10k SELECTOR) HSH-156 C157 (KE-2222[5]) * * \$501 With (9k/10k SELECTOR) HSH-156 C157 (RE-05222[6]) * * \$501 With (9k/10k SELECTOR) HSH-156 C157 RESISTORS(KE-3222/UC, ES) RESISTORS(KE-3222/UC, ES) RESISTORS(KE-3222/UC, ES) RESISTORS(KE-322266 Seb - 66 Seb -			וווייים בי, מספט, ו אטבוו	<i>'</i> -		C61	CGCYX223K25
CG1 Trimmer, 20P CCK-006 CG5, 204 X151 Cerrain Resonator, 5774L CG50109 X151 Cerrain Resonator, 5774L CS51019 X152 CG	CCC.006 CCF 2 X501 X101 X101 X101 X101 X101 X101 X10	/		POWEK)			C64	CKCYB561K50
CT501 CG-0700 CT501 Trimmer, 20P CCG-0700 CT501 X151 Ceramic Resonator, 57kHz CSS1019 CG-0700 X151 Ceramic Resonator, 57kHz CSS1019 CG-0700 CT57 X151 Ceramic Resonator, 57kHz CSS1019 CG-070	CT501 CCX-006 CT501 CCX-006 CT501 CCX-006 CT501 CCC-0700 CCG-070 CCG-						200	C 19790000
X501 Trimmer, 70P CCG-070 CT501	X501 X-rail, Fight X-ra		CG1		900-XCX		000, 204	CEA+/OIM I GEZ
X151 Curamic Resonator, 574Hz GSS1019 X151 Curamic Resonator, 574Hz GSS1019 X151 Curamic Resonator, 574Hz GSS1019 X151 (KE-232XIC) X152 (KE-232XIC, ES) STORS(KE-323ZUC, ES) Symbol & Description Fig. 1-85, 60-66, 151-157, 101/4PM□□□J Symbol & Description Fig. 522, 524-537, 561, 666 Symbol & Description Symbol & Description Fig. 522, 524-537, 561, 666 Symbol & Description Symbol & Description Fig. 522, 524-537, 561, 666 Symbol & Description Symbol & Description Fig. 522, 524-537, 561, 666 Symbol & Description Symbol & Description Fig. 522, 524-537, 561, 666 Symbol & Description Symbol & Description Fig. 522, 524-537, 561, 666 Symbol & Description Symbol & Description Fig. 543, 522, 524-537, 561, 666 Symbol & Description Symbol & Description Fig. 543, 522, 524-537, 561, 666 Symbol & Description Symbol & Description Fig. 543, 522, 524-537, 561, 666 Symbol & Description Symbol & Description Fig. 543, 522, 524-537, 561, 666 Symbol & Description	X151 Ceramic Resonator, 57kHz GSS1019 X151 Ceramic Resonator, 57kHz GSS1019 X151 (KE-322ZES) X151 (KE-322ZES) X151 (KE-32ZZES) X151 (KE-3ZZZES) X151 (KE-3ZZZES) X151 (KE-3ZZZES) X151 (KE-3ZZZES) X151 (KE-3ZZZES) X151 (KE-3ZZES) X151 (KE-3ZZZES) X151 (KE-3ZZES) X152 (KE-3ZES) X152 (KE-3ZZES) X152 (KE-3		CT501	Trimmer 20P	0.69-0.20		C152	CGC 7 X332 K25
Year Year Year Cash Year Cash Year	Year Year Year Cash Year Cash Year				0,000		•	
* S601 Switch (SMH (SMH (SMH (SMH (SMH (SMH (SMH (SMH	X801 X*14,45MHz CSSO46 C155 X801 X*14,45MHz CSSO46 C155 * S601/VR601 Switch/Volume (RAND, MEMO/TONE, BALANCE) CSD1001 C205 * S01/VR601 Switch/Volume (BAND, MEMO/TONE, BALANCE) CSD1001 C205 Symbol & Description Part No. C206 614 Symbol & Description Part No. C209 C218 A51 - 86, 56 - 56, 501 - 506, 508 - 516, 518, 518, 526, 526 - 266, 518, 518, 518, 527, 522, 244 - 537, 521, 522, 524 - 537, 521, 522, 524 - 537, 523, 527, 527, 527, 527, 527, 528, 527, 527, 527, 527, 528, 527, 527, 527, 527, 527, 527, 527, 527		101	Ceramic nesonator, 57Km	z C551019		C154	CKDBC153K25
* S601 Switch (9k1)0k SELECTOR) HSH-156 (KE-3232[E8) (KE-3232[E8) (KE-3232[E8) (KE-3232[E8) (G161 SVMb018 Description Symbol & Description Symbol & Description Fact. 561 565 565 566 567 568 568 568 568 568 568 568 568 568 568	* \$601 Switch (9k1)0k SELECTOR) HSH-156 (KE-3232[ES) (KE-3232[LS) (KE-3232[LS) (RE-3232[LS) (Gi ii (RE-3232]UC, ES) STORS(KE-3232/UC, ES) SYMbol & Description FIST - 56, 60 - 60 151 - 157, 501 - 218, 251, 252, 256 - 266, 451 - 462, 501 - 506, 508 - 516, 518 - 519, 522, 254 - 537, 511 - 58, 60 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 56, 656 - 60 151 - 157, FIST - 60 - 60 - 60 151 - 157, FIST - 60 - 60 - 60 151 - 157, FIST - 60 - 60 - 60 - 151, FIST - 70 - 70 - 70 - 70 - 70 - 70 - 70 - 7			X'tal, 4.5MHz	CSS-046		מנו ל	CEA3B3MEOI S
* \$601/VR601 Switch/Volume (BAND, MEMO/TONE, BALANCE) C161 (156) 160 (161)	* \$801/VR601 \$\text{Suitch/Velume} (RE-3232[8]) \tag{15.5} \text{C156}, 160 \text{C156}, 160 \text{C156}, 160 \text{C2010} \text{C2010} \text{C2010} \text{C156}, 160 \text{C2010} C		S501	itch (9k/10k SELECTOR)	HSH-156			
KE-3232 ES C161 KE-3232 ES C163 KE-3232 ES C163 KE-3232 ES C163 KE-3232 CC C163 KE-3232 CC C163 KE-3232 CC C163 KE-3232 CC C202 KE-3232 CC	KE-3232[ES] (KE-3232[ES] C161 EALANCE Switch/Nolume C2016 EALANCE SALAN, MMO/TONE, EALANCE BALANCE C202 EALANCE SALAN, MMO/TONE, EALANCE C202 EALANCE Symbol & Description Part No. C206, 614 Symbol & Description Part No. C207, 210 Fig. 1 = 462, 501 - 506, 508 - 516, 566 Fig. 1 = 562, 565, 656 Fig. 1 = 562, 565, 656, 656 Fig. 1 = 562, 565, 656, 656 Fig. 1 = 562, 565, 656 Fig. 1 = 562, 566							CSZARZZIM35
★ SBO1/VR601 Switch/Volume CSD1001 CD0 BALANCE) CSD1001 CD0 STORSIKE-322/UC, ES) CD0 CD0 STORSIKE-322/UC, ES) CD0 CD0 Symbol & Description Part No. CD0 R51 – E8, 60 – 69, 151 – 157, at 1 – 157, at 1 – 252, 256 – 266, at 1 – 452, 501 – 506, 508 – 516, at 1 – 452, 501 – 506, 508 – 516, at 1 – 452, 501 – 506, 508 – 516, at 1 – 452, 501 – 506, 508 – 516, at 1 – 452, 501 – 506, 508 – 506, at 1 – 452, 501 – 506, 508 – 506, at 1 – 452, 501 – 506, 508 – 506, at 1 – 502, at 1	* \$801/VR601 National Captions (Captions) * \$801/VR601 Switch Notwer (Captions) * \$19.0000			ישם/טכני שאי			C159, 160	CKDYBC393K25
# SOUT/VIROL SWIND MEMO/TONE, BALANCE) ### SOUT	# SOUT/VIROLIA DISARRA/OUTINE BALANCE C2002 BALANCE C201 BALANCE C201 BALANCE C201 STORSIKE-3222/UC, ES)	•		(NE-3232/E3)	, 60, 60		C161	CEA220M16L2
STORSIKE-3232/UC, ES) STORSIKE-3232/UC, ES) STORSIKE-3232/UC, ES) STORSIKE-3232/UC, ES) SYMbol & Description Fig. 1 = 56, 60 = 69, 151 - 157,	STORS(KE-3232/UC, ES) STORS(KE-3232/UC, ES) STORS(KE-3232/UC, ES) SYMbol & Description R61 − 68, 686 − 69, 151 − 157, 561 − 68, 588 − 687, 584, 566, SYmbol & Description R71 − 88, 60 − 69, 151 − 157, 561 − 68, 588 − 587, 561 − 68, 588 − 587, 561 − 68, 588 − 687, F89 − 587, 587, 587, 587, 587, 588 − 588 SYmbol & Description SYmbol & Description Part No. C226 C226 C227 C227 C227 C227 C228 C228 C228 C228 C228 C228 C228 C228 C228 C229 C229 C221 C228 C229 C221 C228 C229 C220 C221 C222 C222 C224 C226 C227 C227 C227 C227 C227 C227 C227 C227 C228 C228 C228 C229 C229 C229 C220 C	*		001 Switch/Volume	CSD1001			
SYMBOL & Description	STORS(KE-3232/UC, ES) STORS(KE-3232/UC, ES) Symbol & Description Fig. 162, 562, 568, 666, 661, 666, 661, 666, 661, 661, 6			(BAND, MEMO/TONE,			C202	CGCYX222K25
SYMBOI & Description Symbol & Description Fig. 523, 225 SYMBOI & Description Fig. 523, 225 SYMBOI & Description Fig. 523, 254 SYMBOI & Description Fig. 523, 524 SYMBOI & Description Fig. 524 SYMBOI & Description C223 C224 C225 C226 C226 C226 C226 C227 C226 C24 SYMBOI & Description C226 C24 SYMBOI & Description C227 C226 C226 C226 C226 C226 C226 C226 C227 C227 C227 C227 C227 C226 C226 C26 C	SYMBOL & Description Symbol & Description Fig. 562, 563 - 669, 151 - 157, Stynbol & Description Fig. 562, 563 - 669, 151 - 157, Fig. 564 - 677, 262, 265 - 266, Fig. 563 - 669, 161 - 167, Fig. 562, 563 - 669, 161 - 167, Fig. 563 - 669, 161 - 167, Fig. 564 - 677, 262, 265 - 266, Fig. 564 - 677, 262, 262, 262, 262, Fig. 564 - 677, 262, 262, 262, 262, 262, Fig. 564 - 677, 262, 262, 262, 262, 262, Fig. 564 - 677, 262, 262, 262, 262, 262, Fig. 564 - 677, 262, 262, 262, 262, Fig. 564 - 677, 262, 262, 262, 262, 262, Fig. 564 - 677, 262, 262, 262, 262, Fig. 564 - 677, 262, 262, 262, 262, Fig. 564 - 677, 262, 262, 262, Fig. 564 - 677, 262, 262, 262, Fig. 564 - 677, 262, 262, Fig. 564 - 677, 262, 262, Fig. 564 - 677, 262, Fig. 564			BALANCE)			208,	CGCYX223K25
SYMBOL & Description Fig. 128, 260 – 69, 151 – 157, 501 – 218, 251, 252, 255 – 286, 518, 519, 522, 524 – 537, 551 – 566, 568 – 561, 566 SYMBOL & Description Fig. 19, 522, 524 – 537, 551 – 566, 568 – 561, 566 SYMBOL & Description Fig. 19, 522, 524 – 537, 551 – 566, 568 – 561, 566 SYMBOL & Description Fig. 251, 252, 524 – 537, 551 – 566, 568 – 561, 566 SYMBOL & Description Fig. 251, 252, 524 – 537, 551 – 566, 561 – 567, 561 – 566, 561 – 567, 561 – 566, 561 – 69, 151 – 157, 551 – 566, 601 – 613, 652, 265 – 286, 551 – 566, 601 – 613, 652, 655, 551 – 566, 601 – 613, 652, 655, 551 – 566, 601 – 613, 652, 655, 551 – 566, 601 – 613, 656, 552 – 563 Fig. 522, 524 – 537 Fig. 523, 557, 651, 656 Fig. 523, 557, 651, 656 Fig. 523, 524 Fig. 522, 524 – 537 Fig. 523, 557, 651, 656 Fig. 523, 524 Fig. 522, 524 – 537 Fig. 522, 524 – 637 F	SYMBOL & Description Symbol & Description Fig. 1 - 58, 60 - 69, 151 - 157, 201 - 218, 251, 252, 256 - 286, 451 - 452, 501 - 506, 508 - 516, 518, 519, 522, 524 - 537, 551 - 566, 561 - 666, 566, 601 Symbol & Description Fig. 523, 557, 651, 656 Symbol & Description Fig. 523, 557, 651, 656 Symbol & Description Fig. 524 Symbol & Description Fig. 525, 254 - 537, 551 - 556, 566 Fig. 525, 525 - 567, 651, 656 Symbol & Description Fig. 526, 256 - 566 Fig. 527, 528 Fig. 527, 528 - 286, 551 - 566, 601 - 613, 652, 656, 551 - 566, 601 - 613, 652, 656, 551 - 566, 601 - 613, 652, 656, 551 - 566, 601 - 613, 652, 656, 551 - 566, 601 - 613, 652, 656, 551 - 566, 601 - 613, 652, 656, 551 - 566, 601 - 613, 652, 656, 552 - 567, 558 Cycl 548 Cycl 567						223.	
Symbol & Description Fig. 1-6, 0.6 - 69, 151 - 157, Fig. 1-6, 159, Fig. 1-6, Fi	Symbol & Description Symbol & Description 1871 – 18, 0.0 – 68, 151 – 157, 1871 – 218, 251, 252, 256 – 266, 451 – 462, 501 – 506, 508 – 516, 151 8 19, 522, 524 – 537, 551 – 566, 558 – 561, 564, 565, 601 – 613, 652, 656, 688 – 663, 1899, 523, 557, 651, 656 1899, 523, 557, 651, 656 181	. DECIC.	TOBC(KE.3	2232/11C ES)			C206, 614	CEA010M50LS2
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## 1810	# # # # # # # # # # # # # # # # # # #	Mark	Symbol &	Description	Dat No			
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### 15.0 ### 15.0	### Style S21, S22, S29		100	0 751 757 755			C217	CEA3H3M50L2
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518, 519, 522, 524 – 537, 551 – 556, 558 – 561, 564, 565, 601 – 613, 652, 656, 658 – 663 RS1P□□□JL C228 R52, 563 R51P□□□JL C228 STORS (KE-3011/US) STORS (KE-3011/US) STORS (KE-3011/US) STORS (KE-3011/US) Part No. 201 – 218, 251, 252, 255 – 266, 451 – 462, 501 – 506, 508 – 516, 518, 519, 522, 524 – 537, 551 – 556, 601 – 613, 652, 655, 658 – 663 R59, 507, 523, 557, 651, 656 R59, 507, 523, 557, 651, 655 R59, 507, 523, 557, 651, 652 R59, 507, 523, 557, 651, 655 R50, 507, 507, 507, 507, 507, 507, 507, 5	518, 519, 522, 544 – 537, 551 – 556, 558 – 561, 564, 565, 601 – 613, 652, 656, 658 – 663 RSIP□□□JL C226 RSIP□□□JL C226 RSIP□□□JL C226 RSIP□□□JL C226 SYmbol & Description Part No. C251, 252 C251, 252 SYmbol & Description Part No. C251, 252 C251,		451 - 46	2,501 - 506,508 - 516,			C220	CCDCH150.1501.
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## Fig. 652, 655, 658 – 663 ## Fig. 652, 655, 656, 658 – 663 ## Fig. 652, 655, 651, 656 ## Fig. 652, 655, 651, 656 ## Fig. 652, 651, 656 ## Fig. 652, 555, 556 ## Fig. 652, 554 ## Fig. 652, 655 ## Fig. 652, 652 ## Fig.	## R51 - 613, 652, 655, 658 - 663 ## R51 - 613, 652, 655, 656, 656 ## R51 - 58, 60 - 69, 151 - 157, 651, 656 ## R51 - 58, 60 - 69, 151 - 157, 651, 656 ## R51 - 58, 60 - 69, 151 - 157, 851, 552, 524 - 537, 651, 656 ## R51 - 58, 60 - 69, 151 - 157, 801/4PS□□JL ## R51 - 58, 60 - 69, 151 - 157, 801/4PS□□JL ## R51 - 58, 60 - 69, 151 - 157, 801/4PS□□JL ## R51 - 58, 60 - 69, 151 - 157, 801/4PS□□JL ## R51 - 58, 60 - 69, 151 - 157, 801/4PS□□JL ## R51 - 58, 60 - 69, 151 - 157, 801/4PS□□JL ## R51 - 58, 60 - 69, 151 - 157, 801/4PS□□JL ## R51 - 58, 60 - 69, 151 - 157, 801/4PS□□JL ## R52 - 507, 523, 557, 651, 656 ## R53 - 657, 651, 656 ## R54 - 663 ## R55 - 667, 652 ## R55 - 667 ## R56 - 663 ## R57 - 667 ## R57 - 667 ## R58 - 663 ## R58 -		551 - 556	6, 558 — 561, 564, 565,			022	7701107
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STORS (KE-3011/US) Symbol & Description Fig. − 58, 60 − 69, 151 − 157, 751, 552 Symbol & Description Fig. − 28, 250 − 265, 256 A51 − 462, 501 − 506, 508 − 516, 551, 552, 524 − 537, 551, 656, 601 − 613, 652, 655, 651, 656 HS9, 507, 523, 557, 651, 656 HS9, 507, 523, 557, 651, 656 HS9, 507, 523, 557, 651, 656 Fig. − 28, 250 − 206, 2	STORS (KE-3011/US) C253, 254 Symbol & Description For 1 No. Symbol & Description For 1 No. Symbol & Description For 1 Sp. 60 - 69, 151 - 157, PD1/4PS□□JL 201 - 218, 251, 252, 256 - 266, 451 - 462, 501 - 506, 508 - 516, 519, 522, 524 - 537, 551, 556, 601 - 613, 652, 655, 651, 656 For 1 Sp. 601 - 613, 652, 655, 651, 656 For 2 No. 1 Sp. 601, 602, 603 For 2 No. 1 Sp. 601, 602, 603 For 2 No. 1 Sp. 601, 603 For 2 No. 1 Sp.		B562 563		BS1PDDD.II		C226	CEA101M10L2
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STORS (KE-3011/US) Symbol & Description Symbol & Description Bit 1 - 58, 60 - 69, 151 - 157, BD1/4PS□□JL 201 - 218, 251, 252, 255 - 266, 451 - 462, 501 - 506, 508 - 516, 518, 519, 522, 524 - 537, 558 551 - 566, 601 - 613, 652, 655, 651, 656 HB9, 507, 523, 557, 651, 656 RB9, 507, 523, 557, 651, 656 RB9, 507, 523, 557, 651, 656 Bit 1 - 462, 601 - 613, 652, 655 C451, 452 C465, 463 C465, 463 C465, 663 C465, 663 C504, 653 C506, 507 C508 C506, 507 C508 C506, 507 C508 C507, 552, 554	STORS (KE-3011/US) Symbol & Description Symbol & Description B1 - 58, 60 - 69, 151 - 157, C257, 258 R51 - 58, 60 - 69, 151 - 157, C263, 260 C275, 258 C263, 260 C275, 258 C275,						C251, 252	CKPYB471K50L
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653 507 552 554	653 507 552 554						C465	CEAR47M50L2
653 507 552 554	653 507 552 554						C466	CEAR47M50LS2
653 507 552 554	653 507 552 554						C501	CCCCH090D50
653 507 552 554	653 507 552 554						C503	CEA331M6R3L2
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							C553, 554	CEA010M50LS2

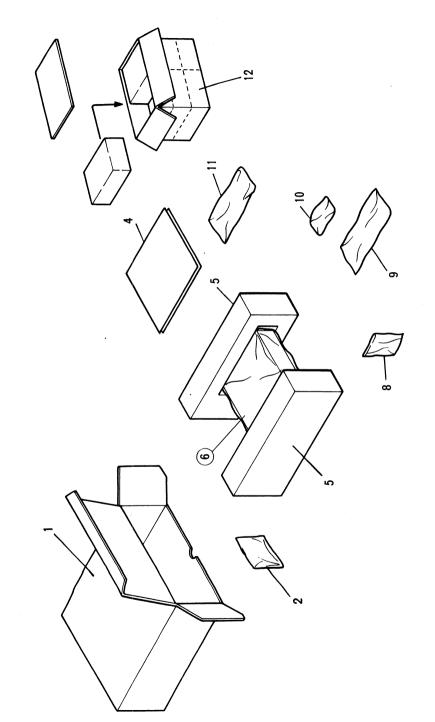
Part No.	RD4R7ESB1 or	MTZ4R7JA HZS5R6JB2 or RD5R6 ISR2	181040M or	1SS176 or	185133	1SS176 or	RD6R8ESB2	RD9R1ESB1		ERA15-02Y MTZ9R1JC or	RD9R1ESB3 CTF-156	CTF-155	CTF-157 CTE-002	CTC-198	C1B1011 CTB1012		CTB1013 CTE1011	CTE1012	CTF-182	CTF-240	CCP-254	CCP-246 CCS1039	CCX-006	CCG-070	: CSS1019	CSS-046 HSH-156	CSD1001							
Symbol & Description			VE 222211C 2515/11C)	(NE-2222/00, 2313/09)		(KE-2222/ES)					Ferri-Inductor	Ferri-Inductor	Ferri-Inductor	Coil	Coil		T203, 204 Coil T205 Coil		T207 Coil CF51, 52 Ceramic Filter		CF202 Ceramic Hesonator VR51 Semi-fixed, 330kΩ (B)	1 1/S45	(TONE, VOLUME/POWER)	5	X151 Ceramic Resonator, 57kHz CSS1019	X501 X'tal, 4.5MHz S501 Switch (9k/10k SELECTOR)	(KE-2222/ES)	S601/V HOUT SWITCH V CHAINE (BAND, MEMO/TONE, BALANCE)						
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Mark	*	*		*		*	7.	7													*	* *				*		*						
Part No.	CEA470M16L2	CEA101M10L2 COMA224J50L	CEA102M10L2 CEA222M16L2	COMA154J50L	CEA010M50NPLL CEA100M25LS	CEA221M10L2 CEA101M10L2	CEA100M25LS	CEA470M16L2	CEA100M25LS	CEA330M16LS	CEA470M16LS CEAR22M50LS2				;	Part No.	LA1140B LA3430	LA1135	M51522AL AN6540	PD4073B	1 A / 280F 2SC2458	2SA1048 or 2SA933S	2SK435 2SC2458 or	2SC1740S	2SA1150 UN4216	2SC2458	UN4216	2SC2498 or 2SC2026	2SC2060 or 2SD667	2SD1468S 2SC2458 or	2SC1740S	US1040M or 1SS176 or 1SS133	KV1235Z3 US1040 or	1S1555 or 1S2473
Symbol & Description	OVIIIDOL & Lescongress	C555, 556, 563 C557, 558 C559. 560		2 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	CSC1, 602 C601, 602 C603, 604	C607 C607 C608, 609	C612 613		C617 C651	C652	C654 C655		MOTHER UNIT	(KE-2222/UC, ES, 2515/US)	MISCELLANEOUS	Symbol & Description	i		IC251 IC404			054, 515, 658	7 Q201		r O501, 502 r O503		0510	* 0513 * 0514	★ 0603	★ Q651,652	k (1655, 659, 659	* D151 – 153, 201, 202, 205, 206, 253, 502, 508, 513, 514,	\$21 — \$35 ★ D207 ★ D251 252 503 509 — 512	
	Mark												MOTH	(KE-22	MISCEI	Mark		* *	* *	*	* 1	k *	* •	*	* *	(1	x - *	* *	*	*	•	•	,	

RESIST	RESISTORS (KE-2222/UC, ES)		Mark	Symbol & Description	Part No.
Mark	Symbol & Description	Part No.		C222 C224	CCCRH180J50 CKPYB102K50L
	R51 – 58, 60 – 69, 151 – 157, 201 – 218, 251, 252, 255 – 262, 461, 462, 501 – 506, 508 – 516,	RD1/4PS□□JL		C226 C228 C251, 252	CEA101M10L2 CCDSL220J50L CKPYB471K50L
	518, 519, 524 – 537, 551 – 556, 601 – 613, 652, 655, 658 – 663 R59, 523, 557, 561, 656 R507 (KE-2222/ES)	RD1/4PMCCCJ RD1/4PMCCCJ			CEANL4R7M35LL CEA470M16LS CGCYX103K25 CGCYX23K25
RESIS	RESISTORS (KE-2515/US)	;		C261, 262 (KE-2515/US) C263	CGCYX103K25 CEA221M10L2
Mark	Symbol & Description	Part No.		C465	CEAR4/M50L2
	1 12 / 1	RD1/4PS□□JL		C466 C467, 468 C501	CEAH4/MDULSZ CEAR15M50LSZ CCCH090D50
	508 - 520, 524 - 537, 551 - 556, 601 - 613, 642, 655, 658 - 663			C503 C504, 653	CEA331M6R3L2 CGCYX103LK25
	R59, 523, 557, 651, 656	RD1/4PMCCCJ		C506, 507 C508 C551, 552	CKPYB101K50L CKDBC223K25 CKDYB331K50
CAPA	CAPACITORS			2552	CEANTOMENTS
Mark	Symbol & Description	Part No.		C555, 556, 563	CEA470M16L2
	C1, 51 – 54, 59, 67, 68, 153, 203	CGCYX223K25 CCCSL330J50		C557, 558 C559, 560	CEA101M10L2 CQMA224J50L
	C56, 63, 151, 216	CEAR47M50LS2		C561, 562	CEA102M10L2
	C57, 201, 213 C58, 156, 616	CGCYX103K25 CEA010M50LS2		C564	CEA222M16L2
	250 '551 '650	CKPVB101K501		C565 C601, 602	CQMA154J50L CEA010M50NPLL
	C61	CGCYX223K25		C603, 604	CEA010M50LS2
	C64	CKCYB561K50		(200)	CEAZZIMIOLZ
	C65, 204 C152	CGCYX332K25		C608, 609 C612, 613	CEA101M10L2 CEA100M25LS
	277	CK DBC153K75		C615	CEA470M16L2
	C155	CEA3R3M50LS		C617	CEA101M50L2 CFA100M25LS
	C157 C159, 160	CSZAR22M35 CKDBC393K25		C652 .	CEA330M16LS
	C161	CEA220M16L2		C654	CEA470M16LS
	C202 C205, 208, 211, 212, 214, 215,	CGCYX222K25 CGCYX223K25		Coop	CEAR2ZIMBULSZ
	219, 223, 225 C206, 614 C207, 210	CEA010M50LS2 CCDSH070C50L			
	C209 C217 C218 C220 C221	CCPCH010M50L CEA3R3M50L2 CEA4R7M35L2 CCDCH150J50L CQPA511G2A			

No.	ESN 1001 HSK-126	į	Part No.	ESH1001	;	Part No.	EPB1001 EXA1013
SWITCH P.C. BOARD Mark Symbol & Description Part No.	* * \$1,2 Switch (MUTE, MOTOR) ESN1001 * * \$3 Switch (TAPE/TUNER) HSK-126		Mark Symbol & Description Part	** S1 Switch (FWD/REV) ESH	Miscellaneous Parts List	Mark Symbol & Description Part	** HD1 Head EPE ** M1 Motor EX.
Part No.	CWW1054 FTD-6251H SLR-320PG3KL	CEL1004 or CEL1025			Part No.	CWW1054	SLR-320VR3FKL CEL1004 or CEL1025
∞ ∞	Mark Symbol & Description: ★ LCD (KE-3232/UC, ES) ★ LCD (KE-3011/US)	06		KEY BOARD UNIT	(KE-2222/UC, ES, 2919/US)	Main	★ LCD★ D902 (KE-2515/US)★ ★ 1L901 - 903 Lamp, 14V 40mA



23. PACKING METHOD



List	
Parts	
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Mark	Š.	Part No.	Description	Mark	No.	Part No.	Description
	 -	CHG1270	Carton (KE-3232/UC)	*	2-8	CAA1058	Knob (KE-2515/US)
		CHG1273	Carton (KE-3232/ES)		က	VACANT	
		CHG1274	Carton (KE-3011/US)		4.	CRB1068	Owner's Manual (KE-3011/US)
		CHG1275	Carton (KE-2222/UC)			CRB1069	Owiner's Manual (KE-2515/US)
		CHG1278	Carton (KE-2222/ES)			CRD1080	Owner's Manual
							(KE-3232/ES, 2222/ES)
		CHG1279	Carton (KE-2515/US)				
,	2	CXA1634	Knob Assy (KE-2222/UC, ES)			CRD1124	Owner's Manual (KE-3232/UC,
		CXA1636	Knob Assy (KE-3011/US)				2222/UC)
		CXA1637	Knob Assy (KE-2515/US)		2	CHP1064	Styrofoam
		CXA1773	Knob Assy (KE-3232/UC, ES)		6		Polyethylene Bag
					7	VACANT	
*	. 2-1.	CAA1011	Knob (KE-3232/UC, ES,				
			2222/UC, ES, 2515/US)		∞.	CNS-962	Cover
*	2-2.	CAA1054	Knob (KE-3232/UC, ES,		တ်	CEA-550	Accessory Kit (KE-3232/UC, ES,
			2222/UC, ES, 2515/US)				2222/UC, ES, 2515/US)
*	2-3.	CAA1055	Knob (KE-3232/UC, ES,			CEA1196	Accessory Kit (KE-3011/US)
			2222/UC, ES)		9-1.	CDE1289	Cord
	,				(
	2-4.	CNK-292	Cap (KE-3232/UC, ES,		7-7	CIN V - 769	wasner
			2222/UC, ES, 2515/US)		9-3.	CNS-722	Cover
*	2-5.	CAA-603	Knob (KE-3011/US)		9-4.	CNC-975	Strap
*	2-6.	CAA1056	Knob (KE-3011/US)		9-5.		Screw Kit
*	. 2-7.	CAA1083	Knob (KE-3011/US)		9-5-1.	9-5-1. CBA-028	Screw for strap

Mark	Š	Part No.	Description	Mark		No. Part No.	Description
	9-5-2.	9-5-2. CBN-028	Nut		=	CXA1629	Panel Assy (KE-3232/UC, ES)
	9-5-3	9-5-3. B20-013	Washer (KE-3011/US)			CXA1631	Panel Assy
	9-5-4	9-5-4. CND-646	Spacer (KE-3232/UC, ES,				(KE-2222/UC, ES, 2515/US)
			2222/UC, ES, 2515/US)			CXA1642	Panel Assy (KE-3011/US)
	9-5-5.	9-5-5. NF40FMC	Nut (KE-3232/UC, ES,		11-1.	11-1. CNS1226	Panel (KE-3232/UC, ES)
			2222/UC, ES, 2515/US)				
					11-2.	11-2. CNS1228	Panel
	9-5-6	9-5-6. NF50FMC	Nut (KE-3232/UC, ES,				(KE-2222/UC, ES, 2515/US)
			2222/UC, ES, 2515/US)		11-3.	CNS1233	Panel (KE-3011/US)
	9-5-7.	9-5-7. CBN1001	Nut (KE-3011/US)		11-4.	11-4. CNG-633	Plate
	9-5-8.	9-5-8. CNC1528	Spacer (KE-3011/US)		12.	CHL1270	Contain Box (KE-3232/UC)
	9-5-9.	9-5-9. WS40FMC	Washer (KE-3232/US, ES,				
			2222/UC, ES, 2515/US)			CHL1274	Contain Box (KE-3011/US)
						CHL1275	Contain Box (KE-2222/UC)
	9-5-10.	9-5-10. PMB50Y160FMC				CHL1279	Contain Box (KE-2515/US)
	10.	CDE1345	Cord Assy				
			(KE-2222/UC, ES, 2515/US)				
		CDE1419	Cord Assy				
			(KE-3232/UC, ES, 3011/US)				